IRON AGE MARITIME NODES ON THE ENGLISH CHANNEL COAST.

AN INVESTIGATION INTO THE LOCATION, NATURE AND CONTEXT OF EARLY PORTS AND HARBOURS.

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A thesis submitted in two volumes in partial fulfilment of the requirements of Bournemouth University for the degree of Doctor of Philosophy

Volume II

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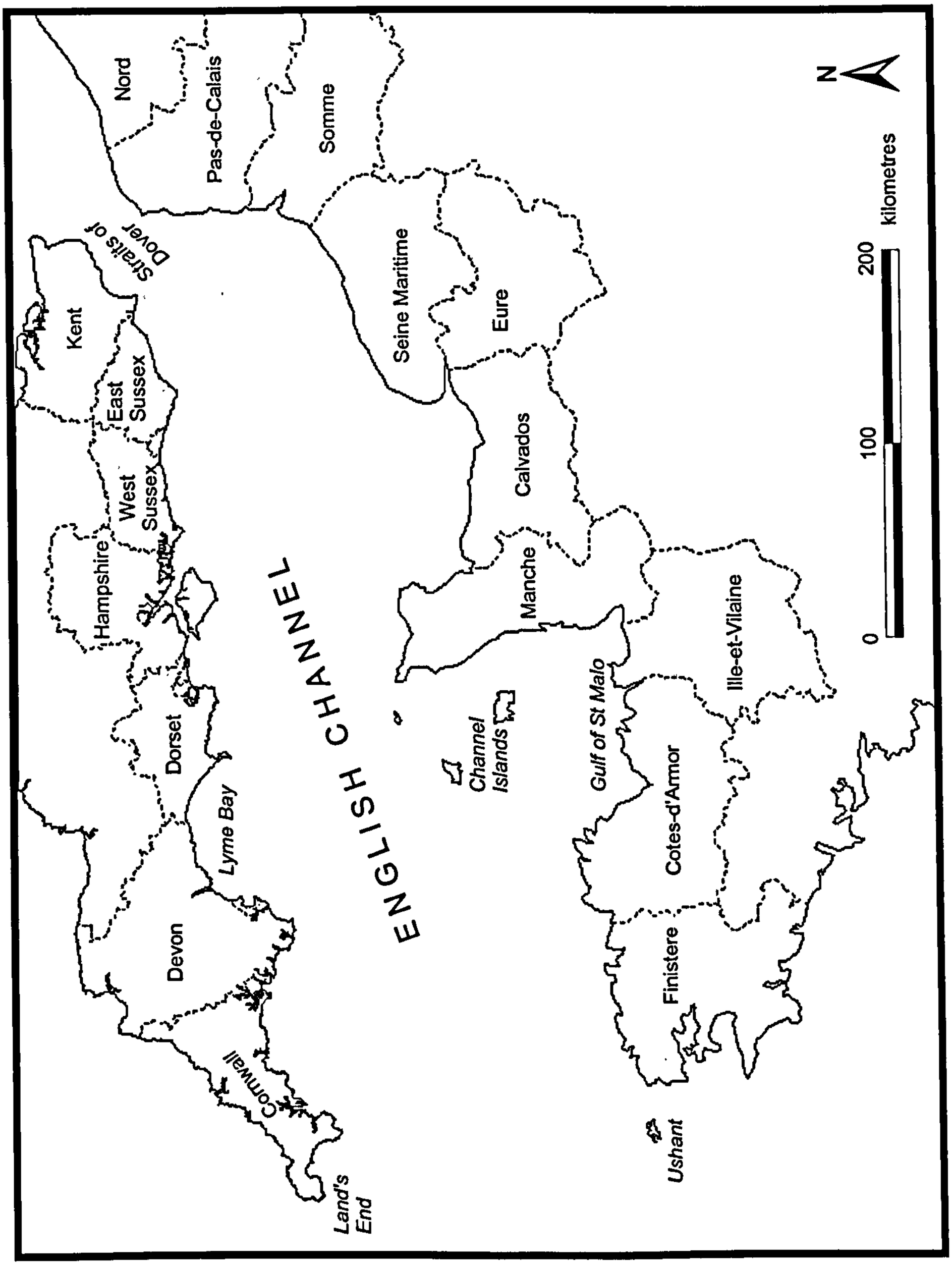

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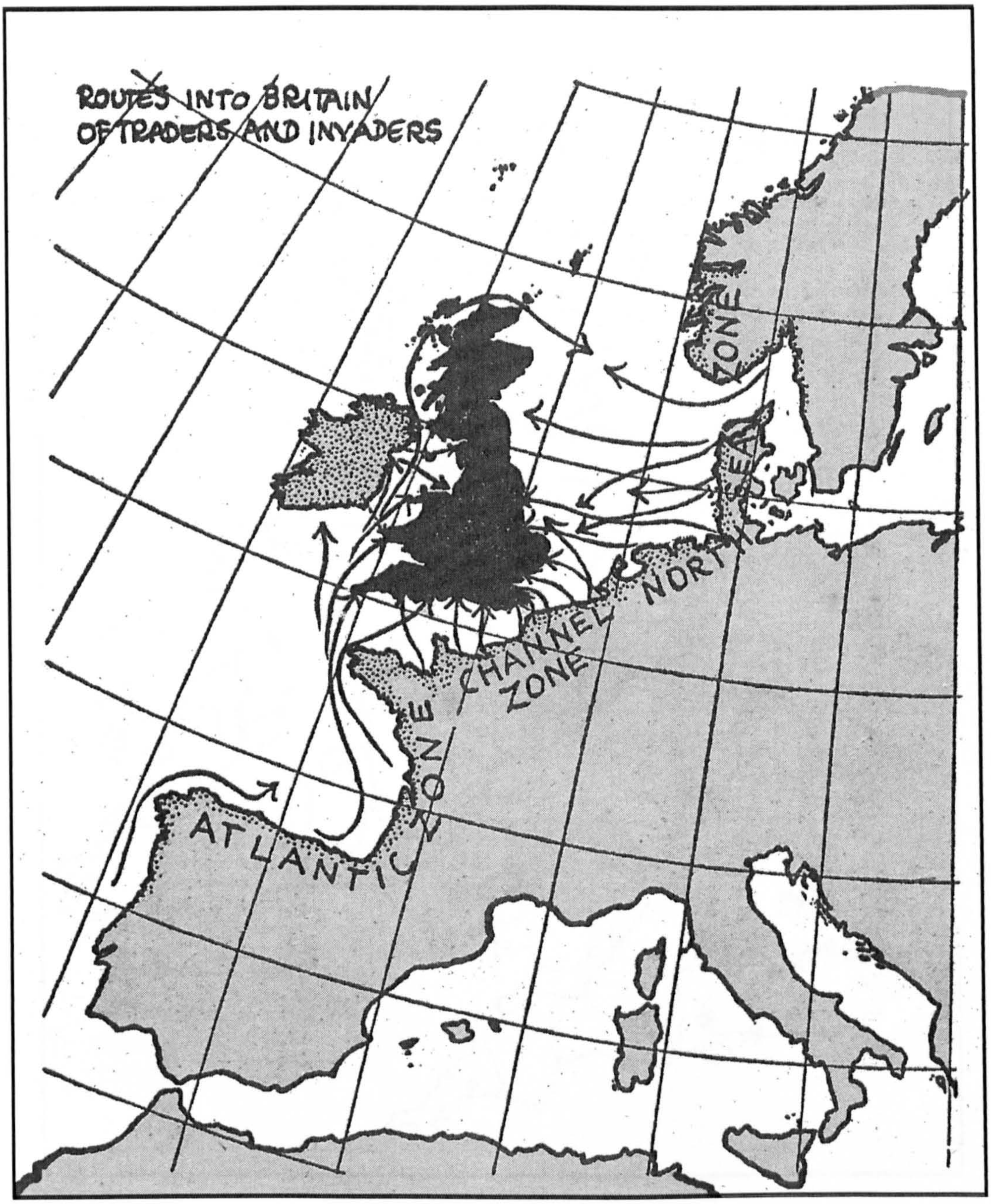

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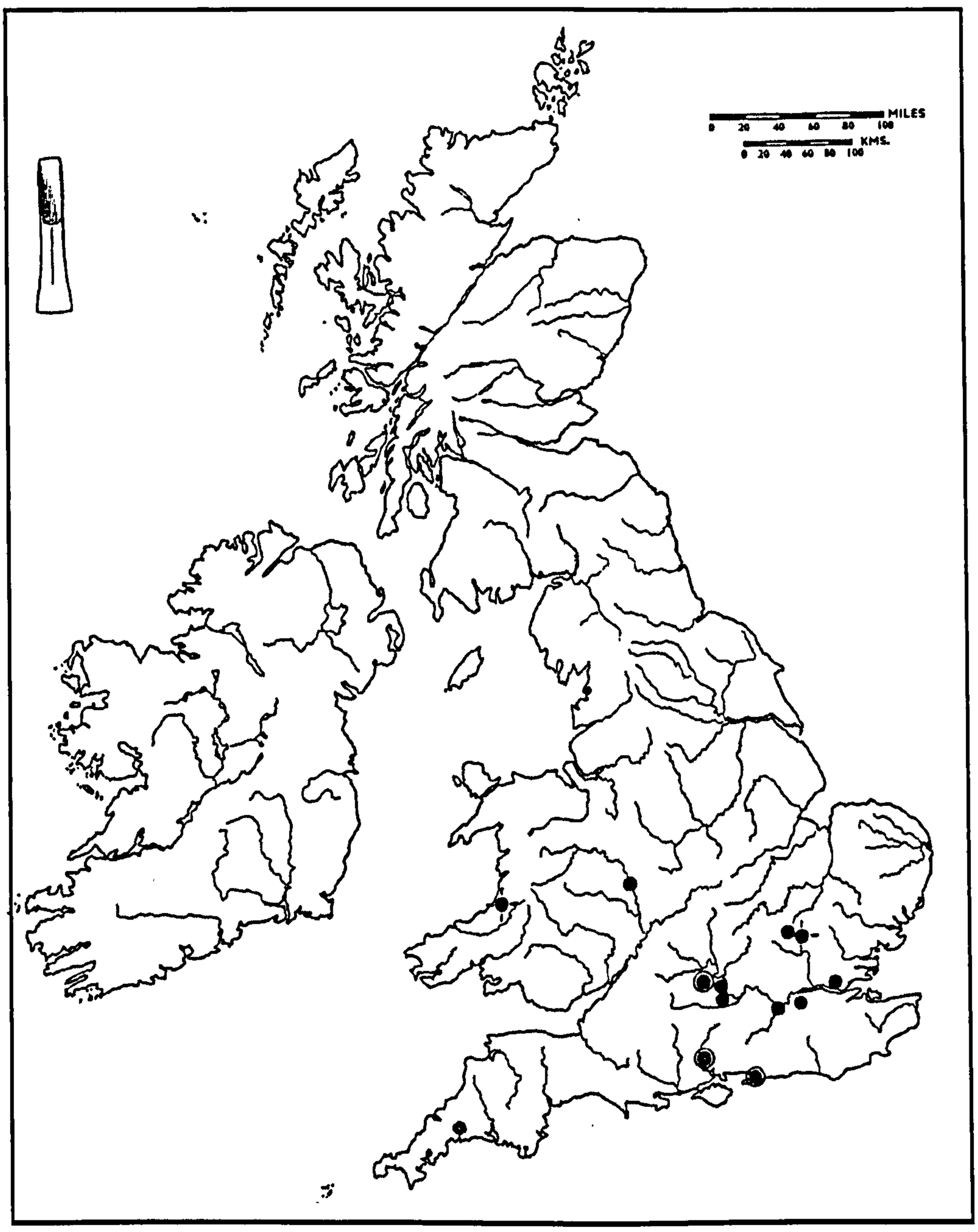

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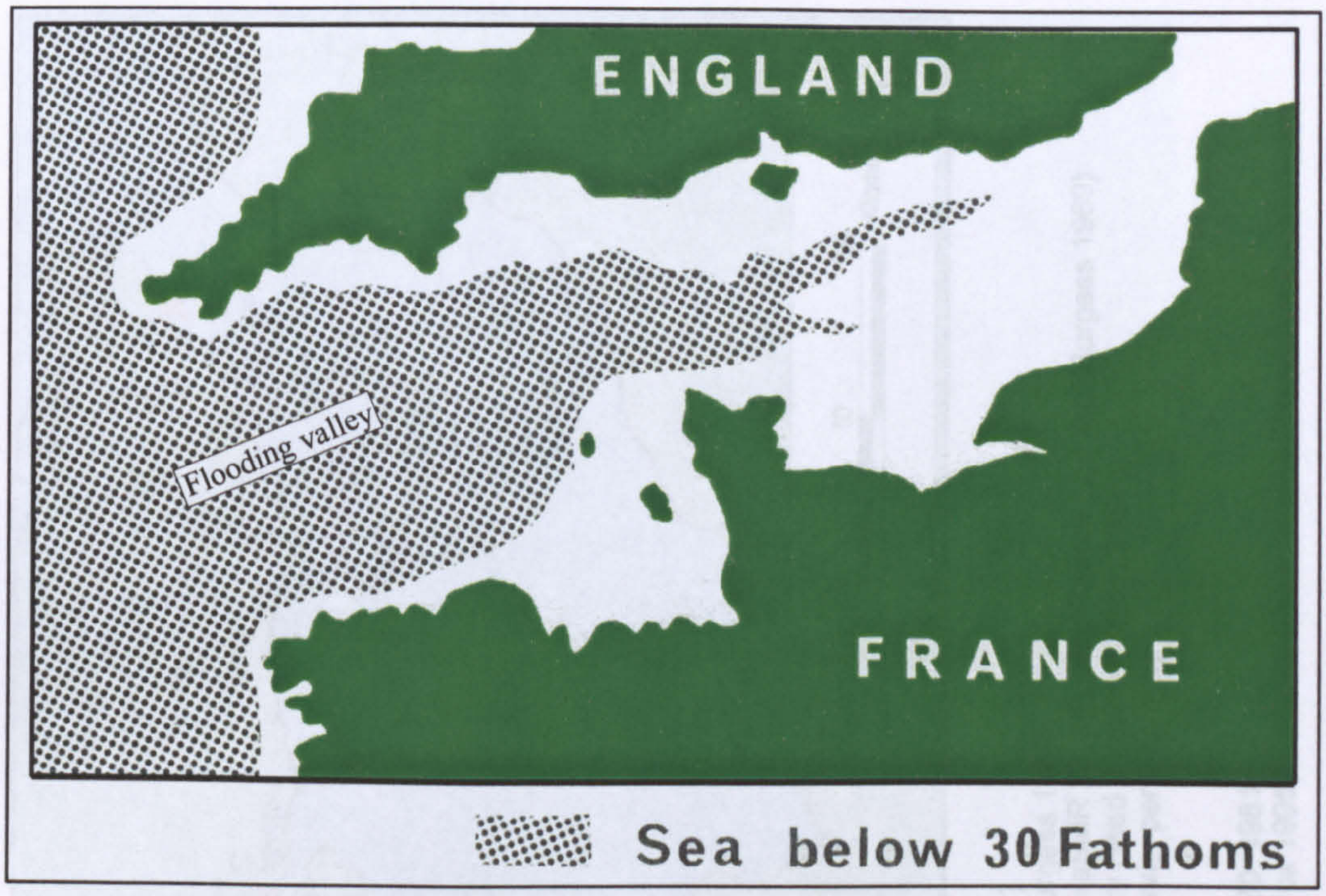

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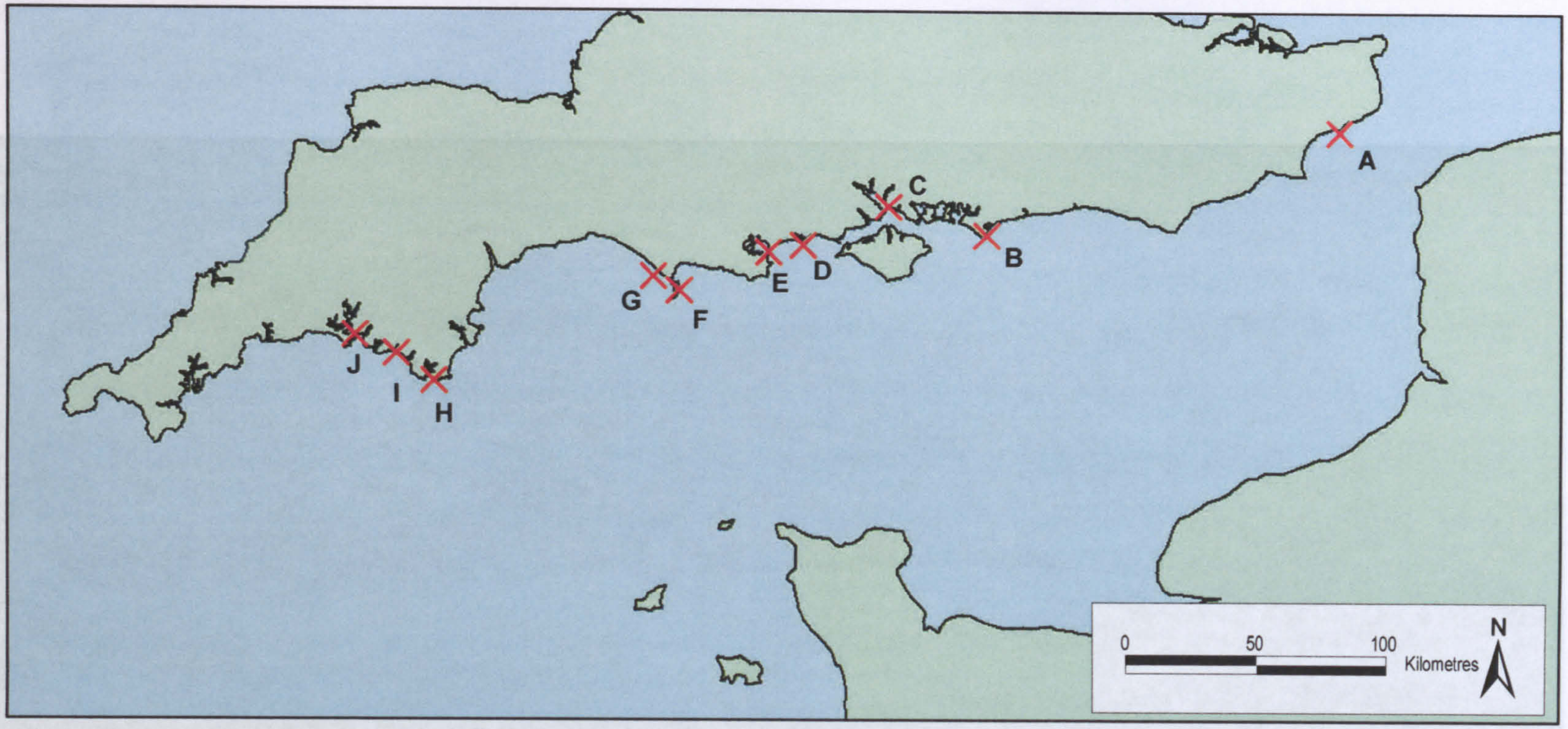


Figure 5: Locations mentioned in the text of artefacts retrieved from off the coast or shore of southern Britain, interpreted as cargo from wrecked vessels.

A - Langdon Bay, Bronze Age cargo off Dover (Muckelroy 1980; 1981)
B - Selsey, Bronze Age axes on beach (assumed washed ashore) (Burgess 1969)
C - Amphora and Roman pottery dredged from Southampton Water (HaSMR 22084); also Bronze Age axe (Burgess 1969)
D - Sicilian Bronze Age axe off shore at Southbourne near Hengistbury Head (Hawkes 1938a; 1938b)
E - Late Bronze Age axe from Poole Harbour entrance, May 2004 (Jarvis, pers. comm.)
F - Bronze Age axe from Portland beach (Taylor 2001)
G - Bronze Age axe from Chesil beach (Le Pard, pers. comm.)
H - Bronze Age cargo from Moor Sands, off Salcombe (Muckelroy 1980; 1981)
I - Tin ingots (possibly prehistoric) from the mouth of the river Erme (Fox 1995)
J - Bronze Age axe from Plymouth (Burgess 1969)

Figure 6: Bronze Age axe recovered from Poole Harbour entrance, May 2004 (Photo: K Jarvis, Poole Museums Service).

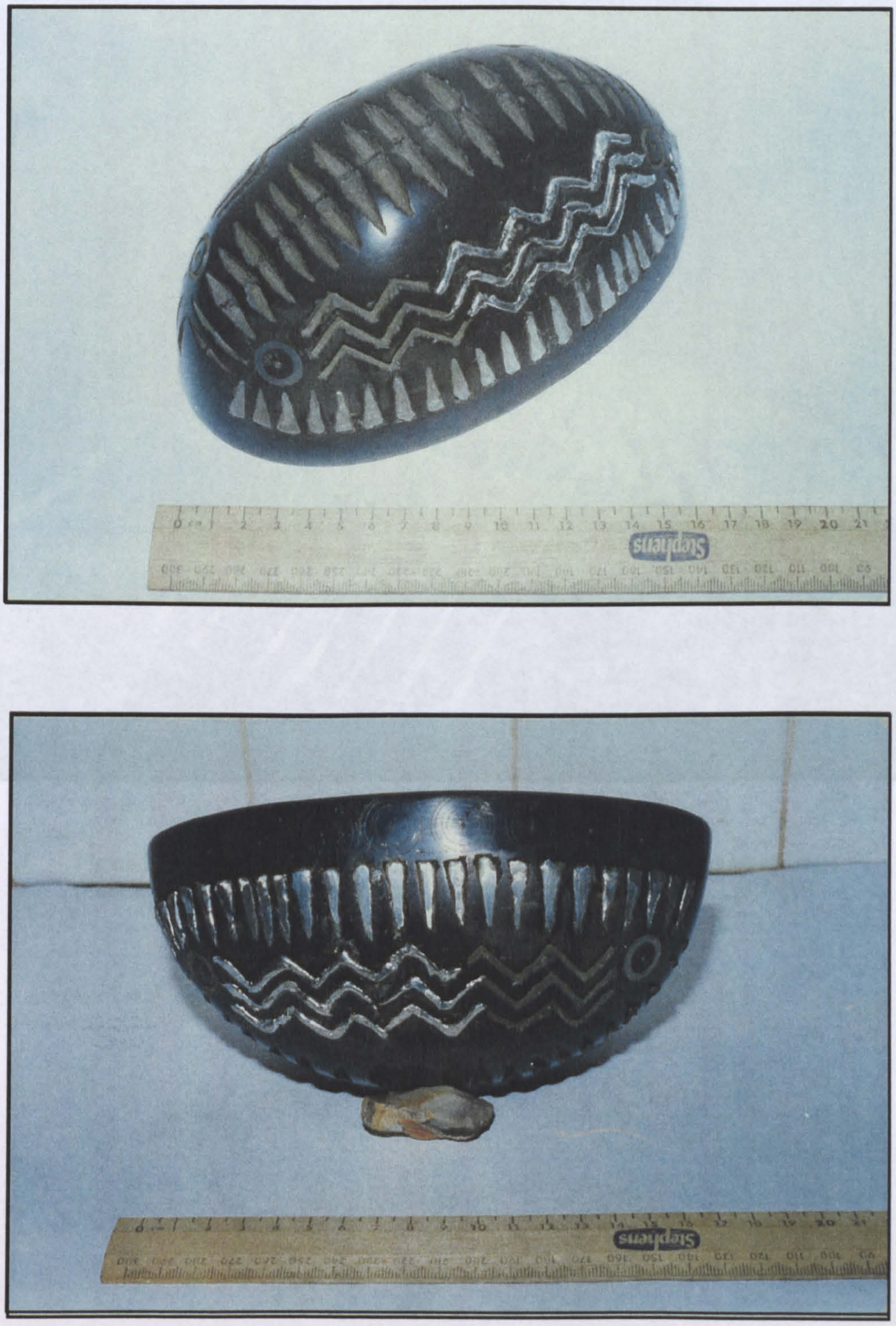
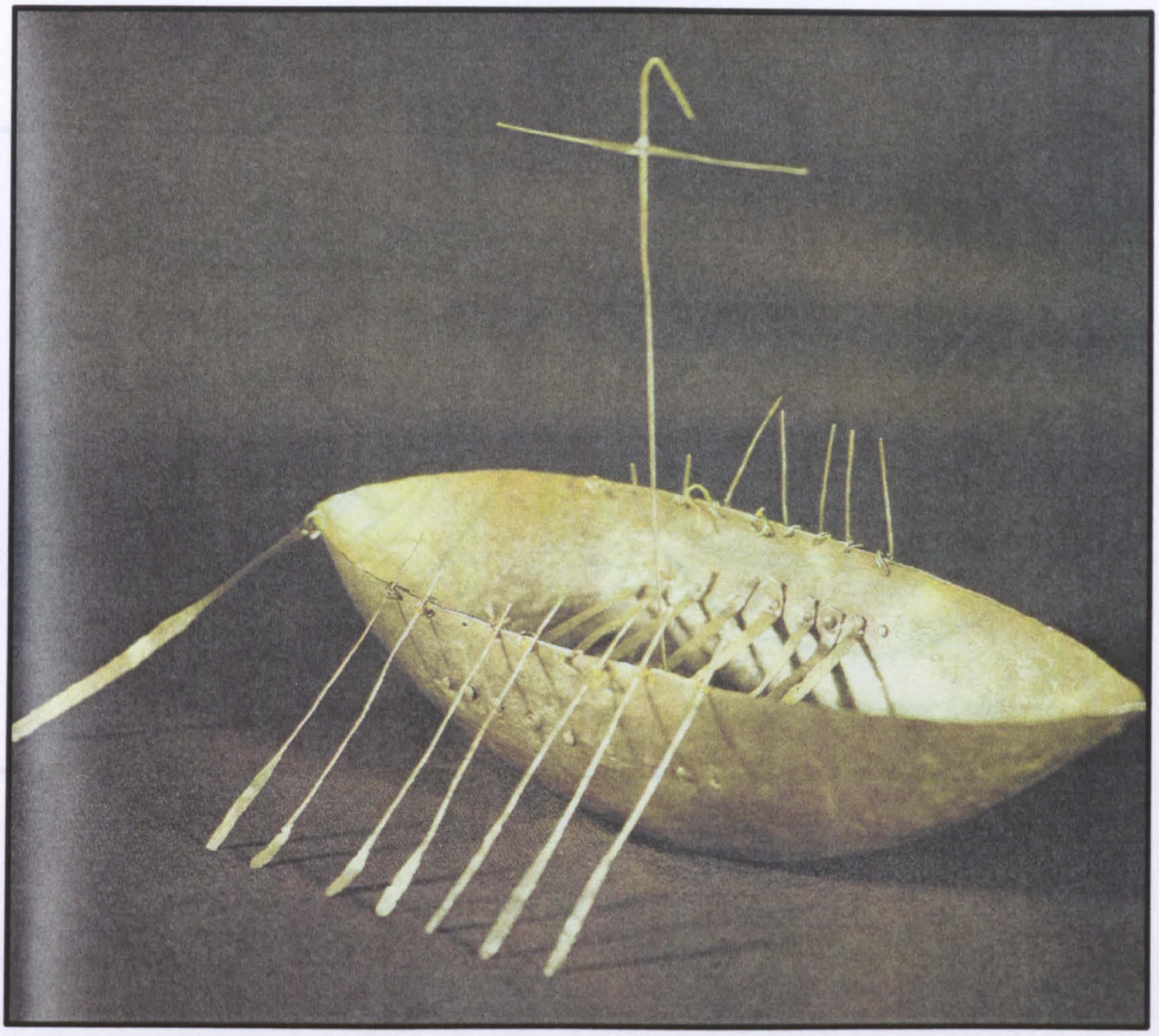


Figure 7: 1:1 reconstruction of the Caergwrle model boat.
Made from Kimmeridge shale and inlaid with silver (Photo: D Sloper archive).



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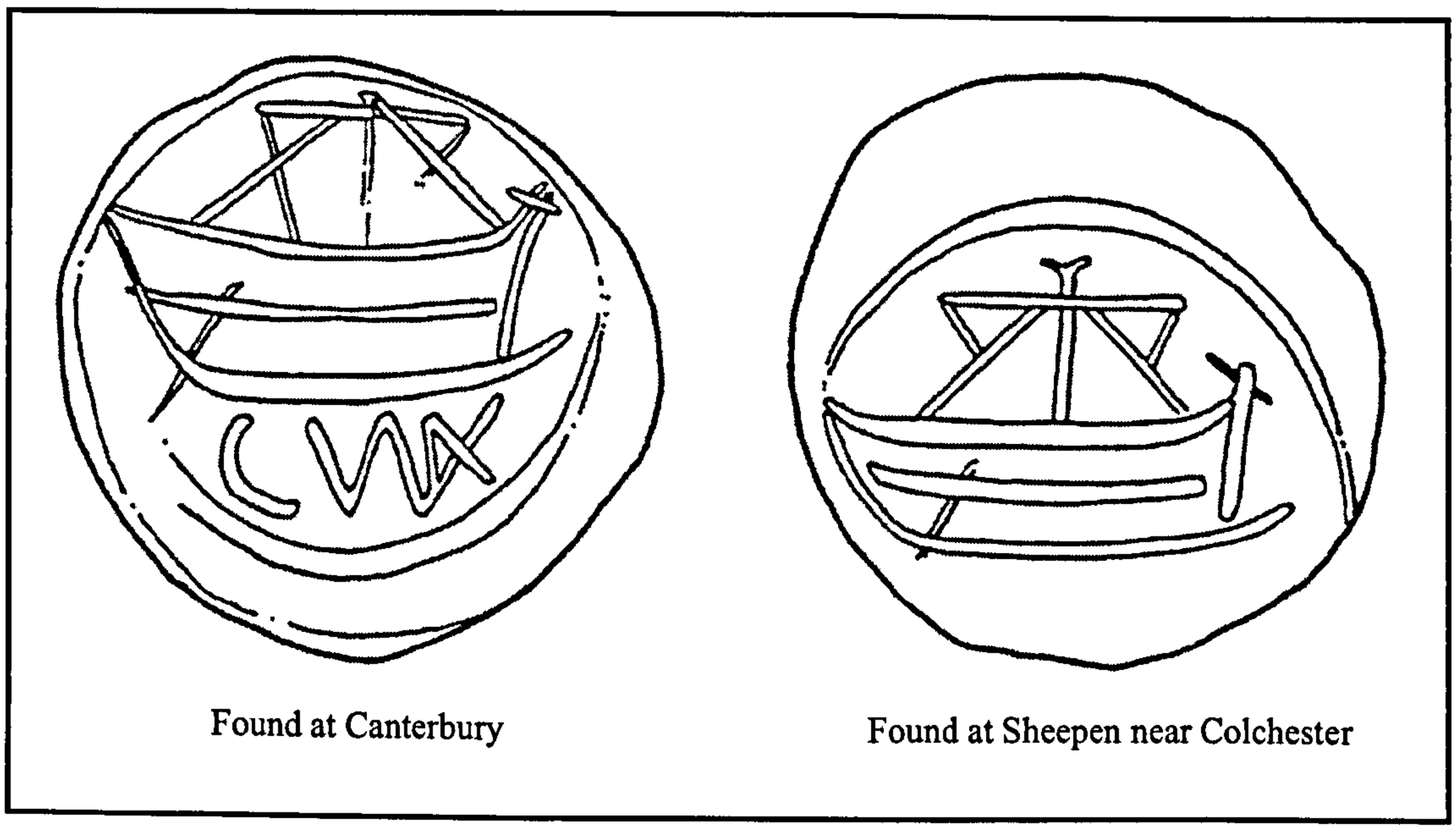
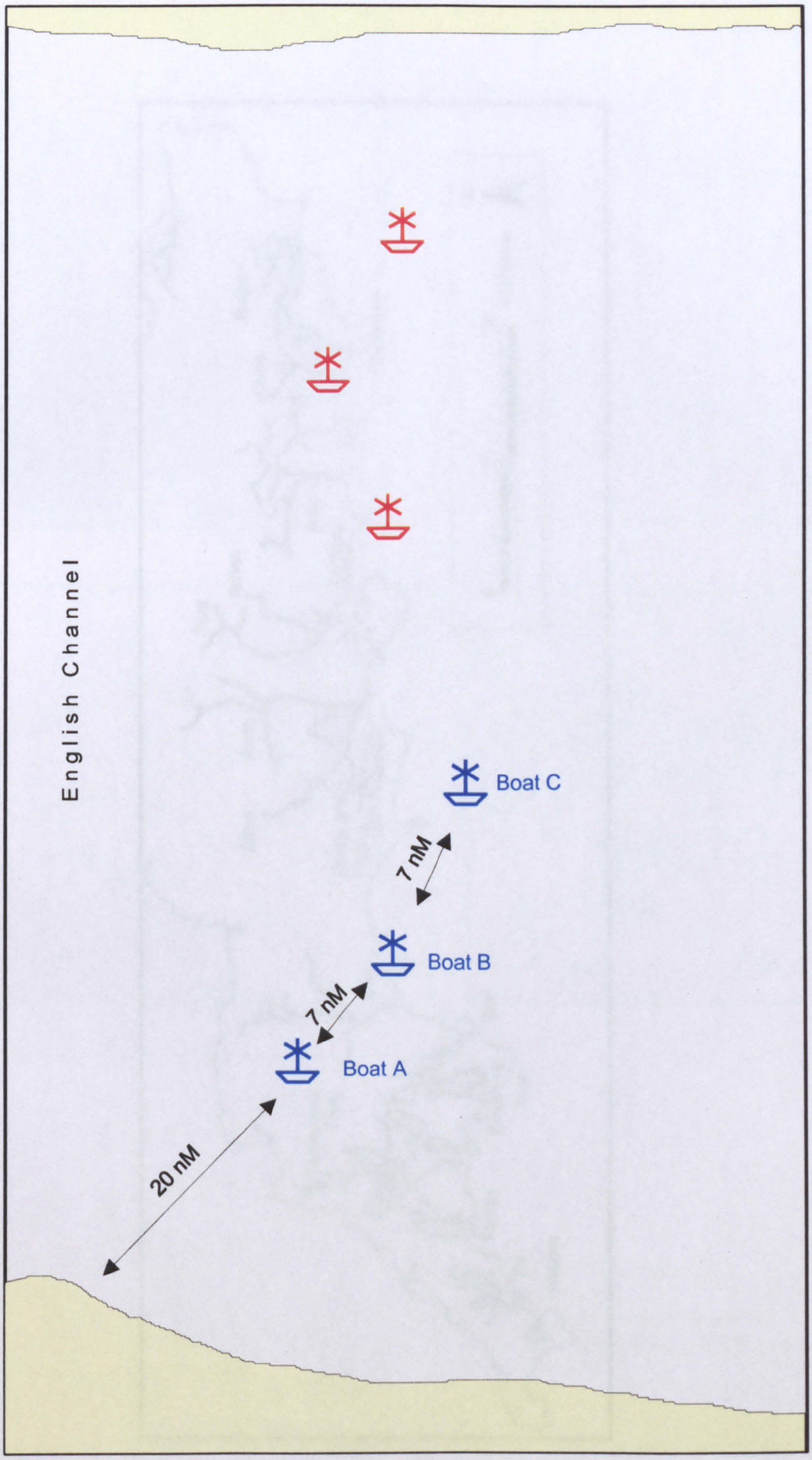


Found at Canterbury

Found at Sheepen near Colchester

Figure 9: Drawing of the 1st century AD Cunobelin bronze coins.
Drawing: Institute of Archaeology, Oxford (After McGrail 1993, Figure 20.6).



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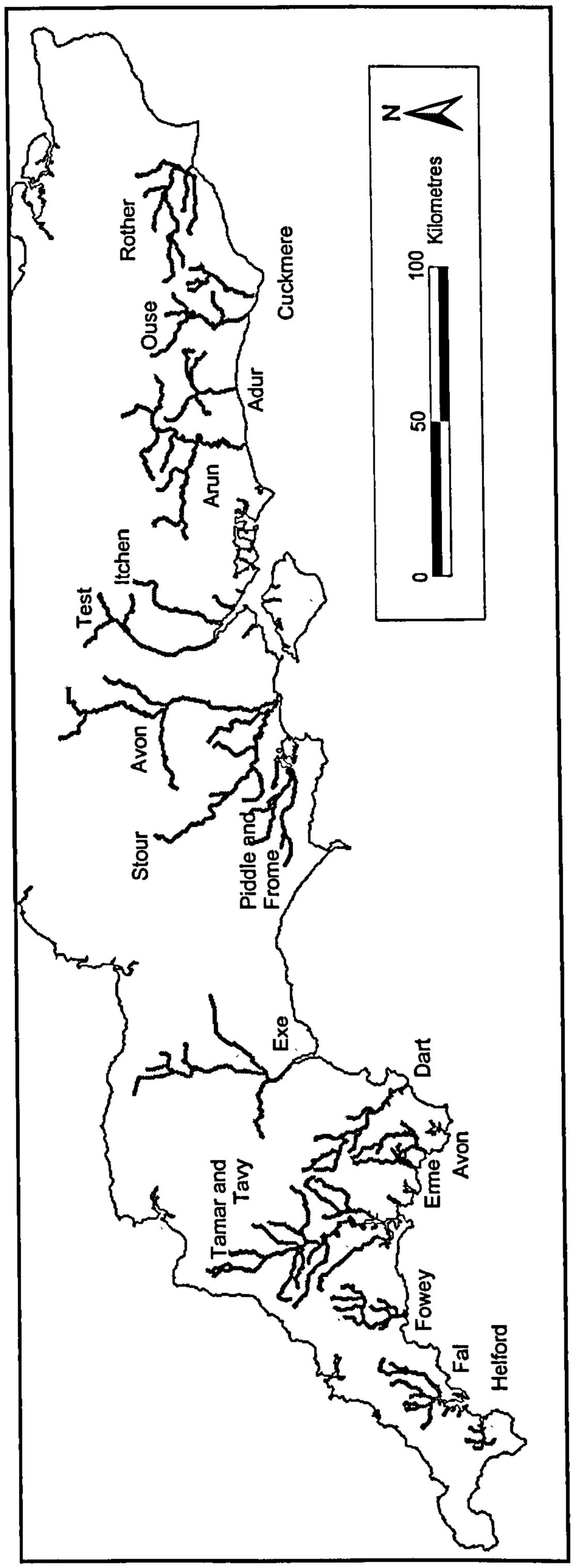

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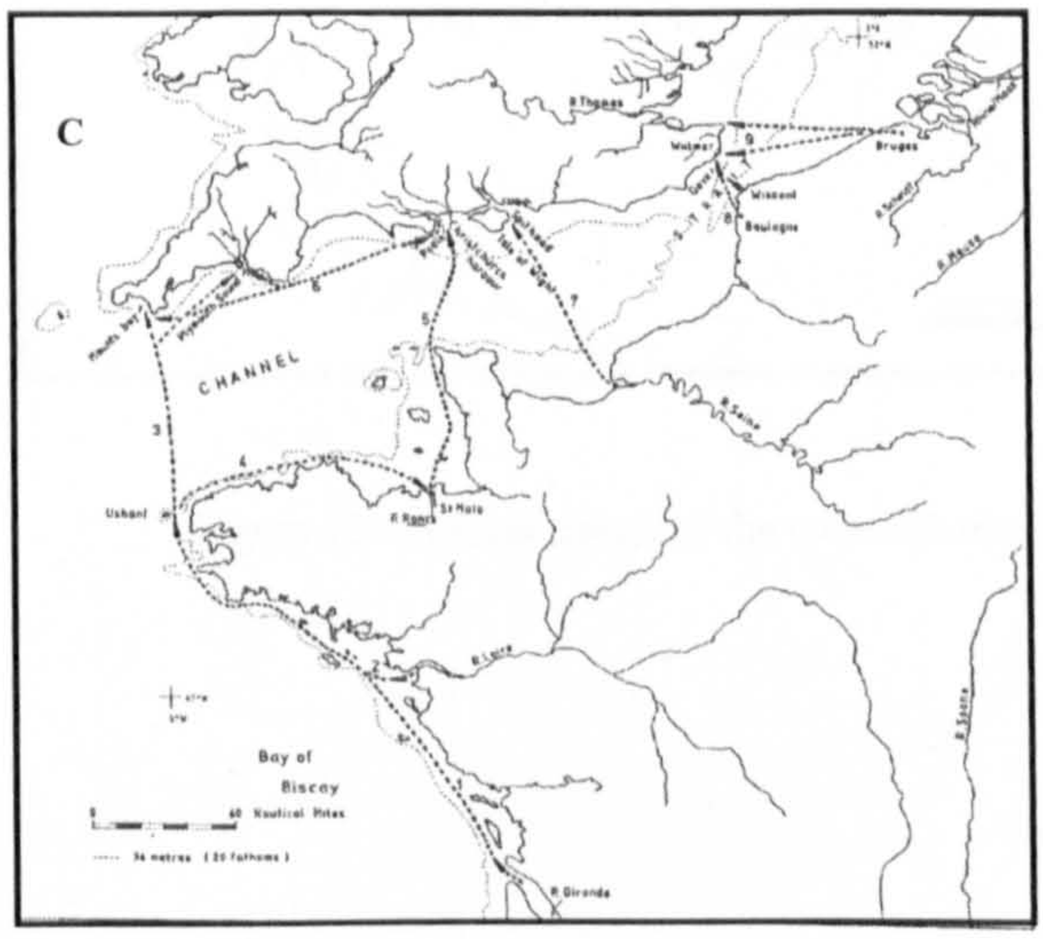
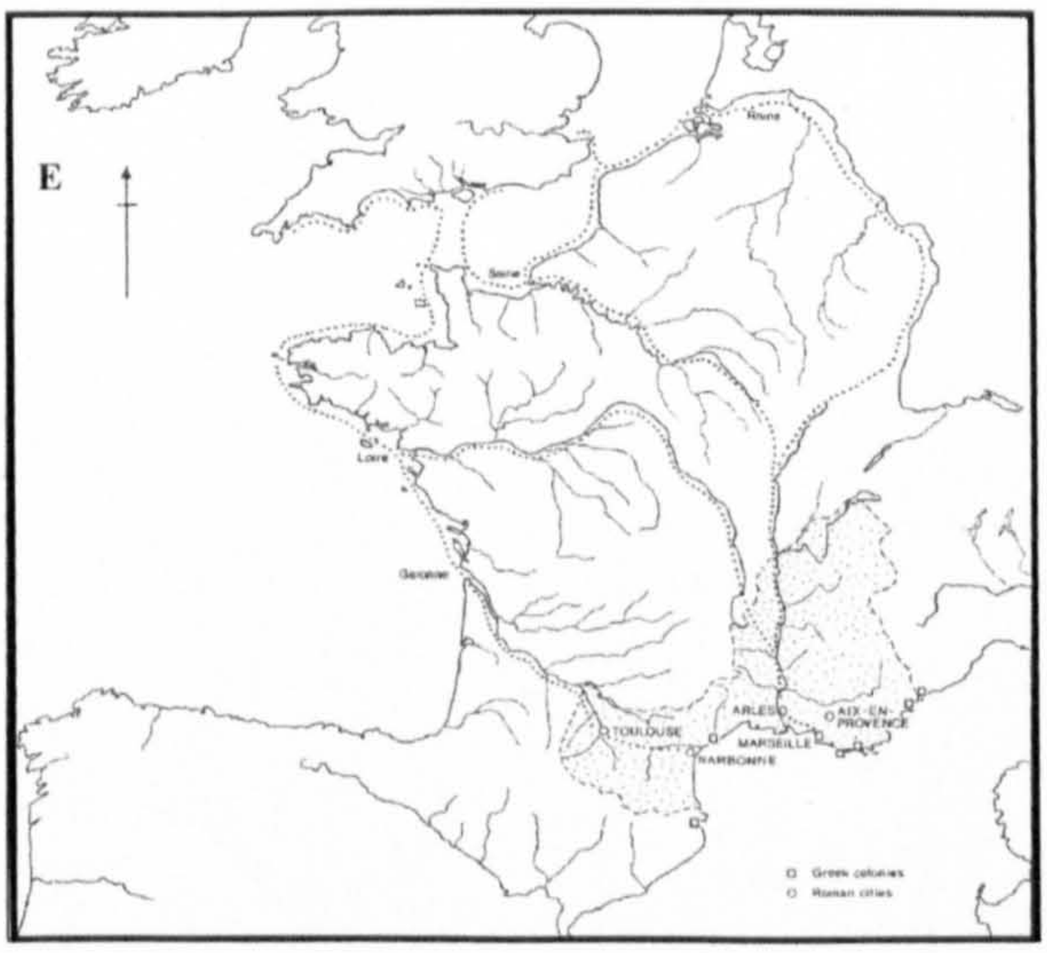
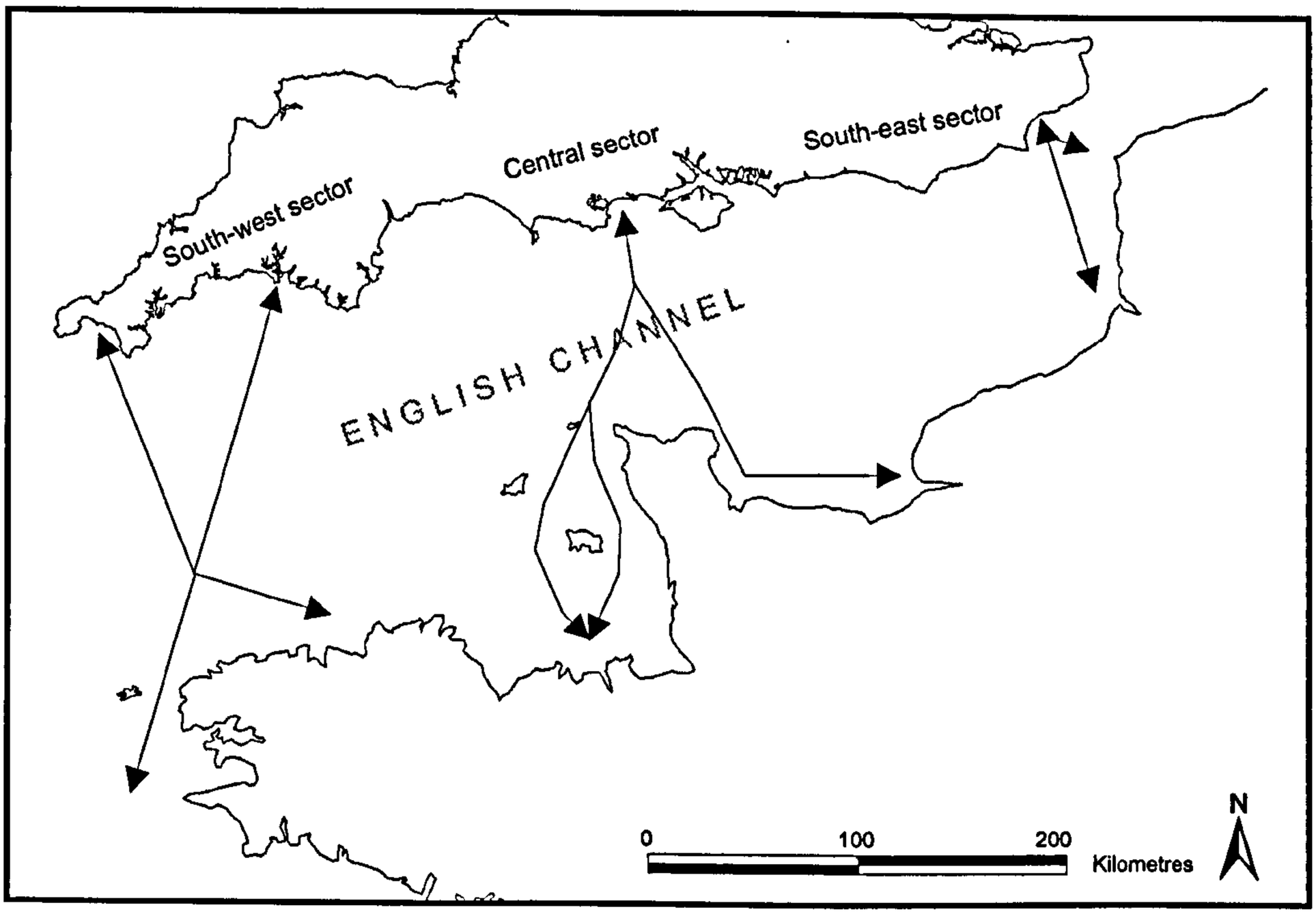




A - Fox 1943 (portion)
B - Bowen 1972
C - McGrail 1995a, Figure 15.9
D - Allen and Fulford 1995, Figure 13
E - Giot 1997, 2

Figure 12: Routes along and across the English Channel shown by previous authors.



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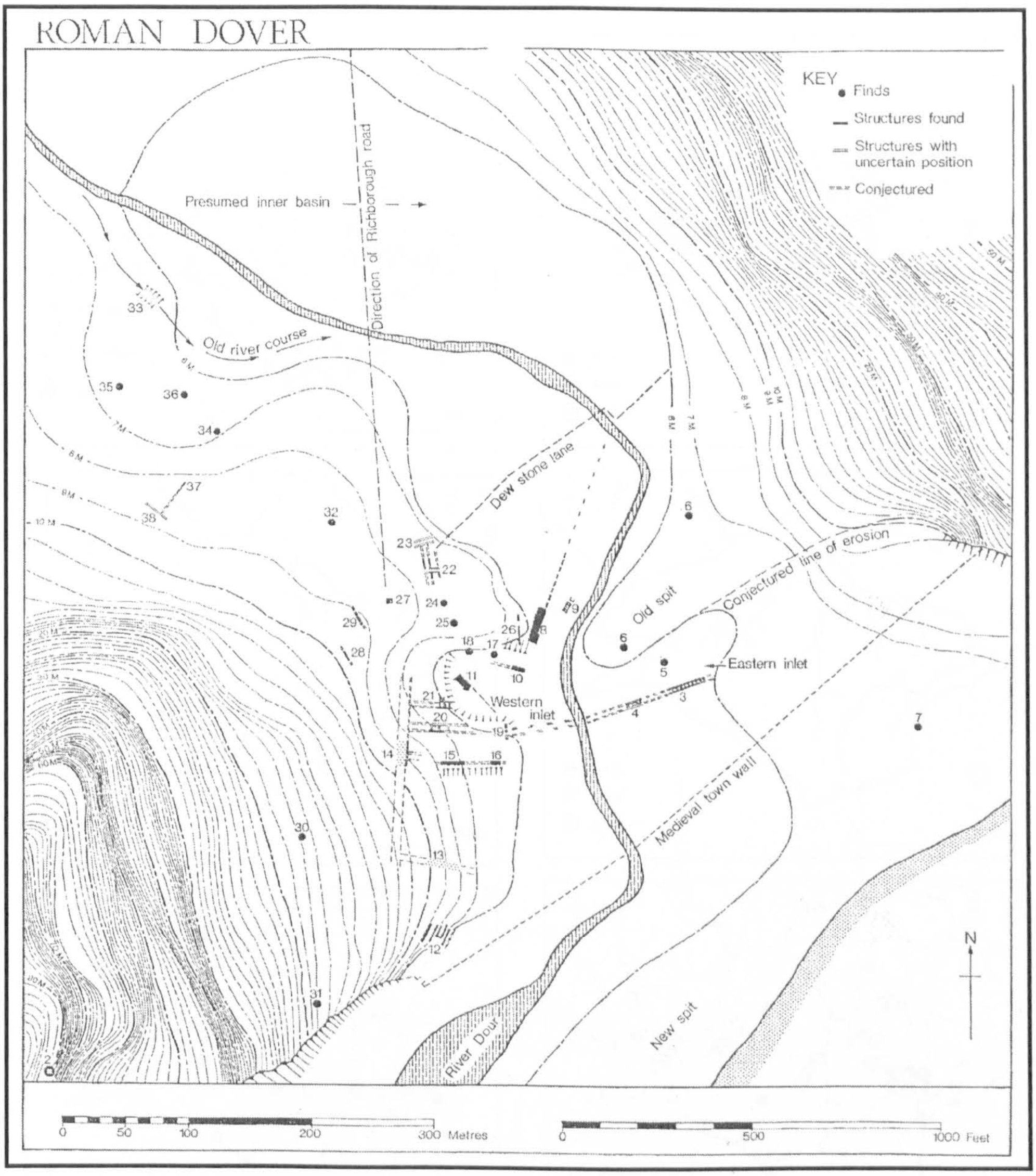

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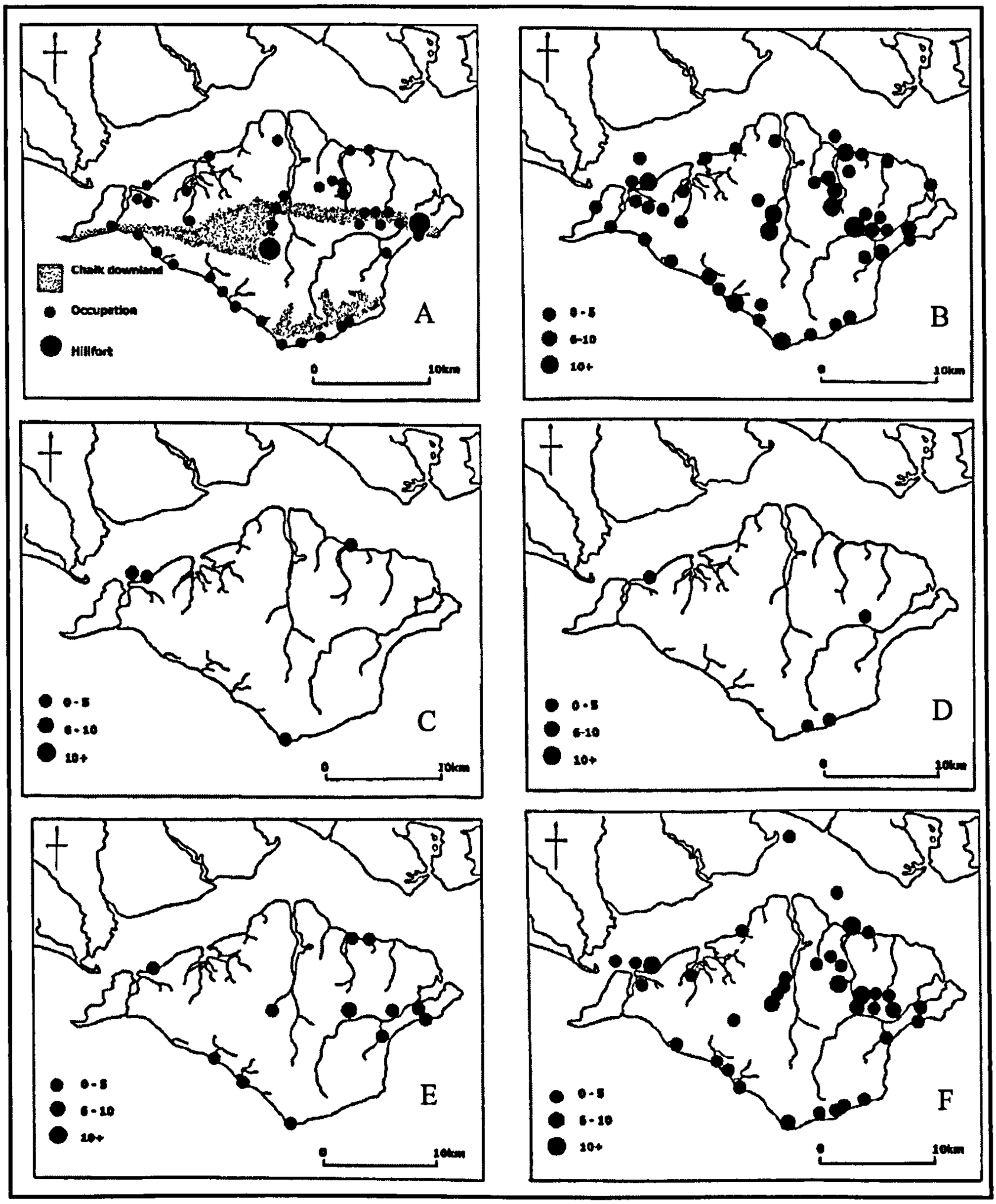

A Iron Age sites on the Isle of Wight (Trott and Tomalin 2003, Figure 4)
B Durotrigian black burnished pottery of late Iron Age style (Trott and Tomalin 2003, Figure 8)
C Armorican graphite-coated pottery (Trott and Tomalin 2003, Figure 6)
D Armorican black cordoned pottery (Trott and Tomalin 2003, Figure 7)
E Atrebatic pottery (Trott and Tomalin 2003, Figure 17)
F Imported Gallo-Belgic pottery (Trott and Tomalin 2003, Figure 19)

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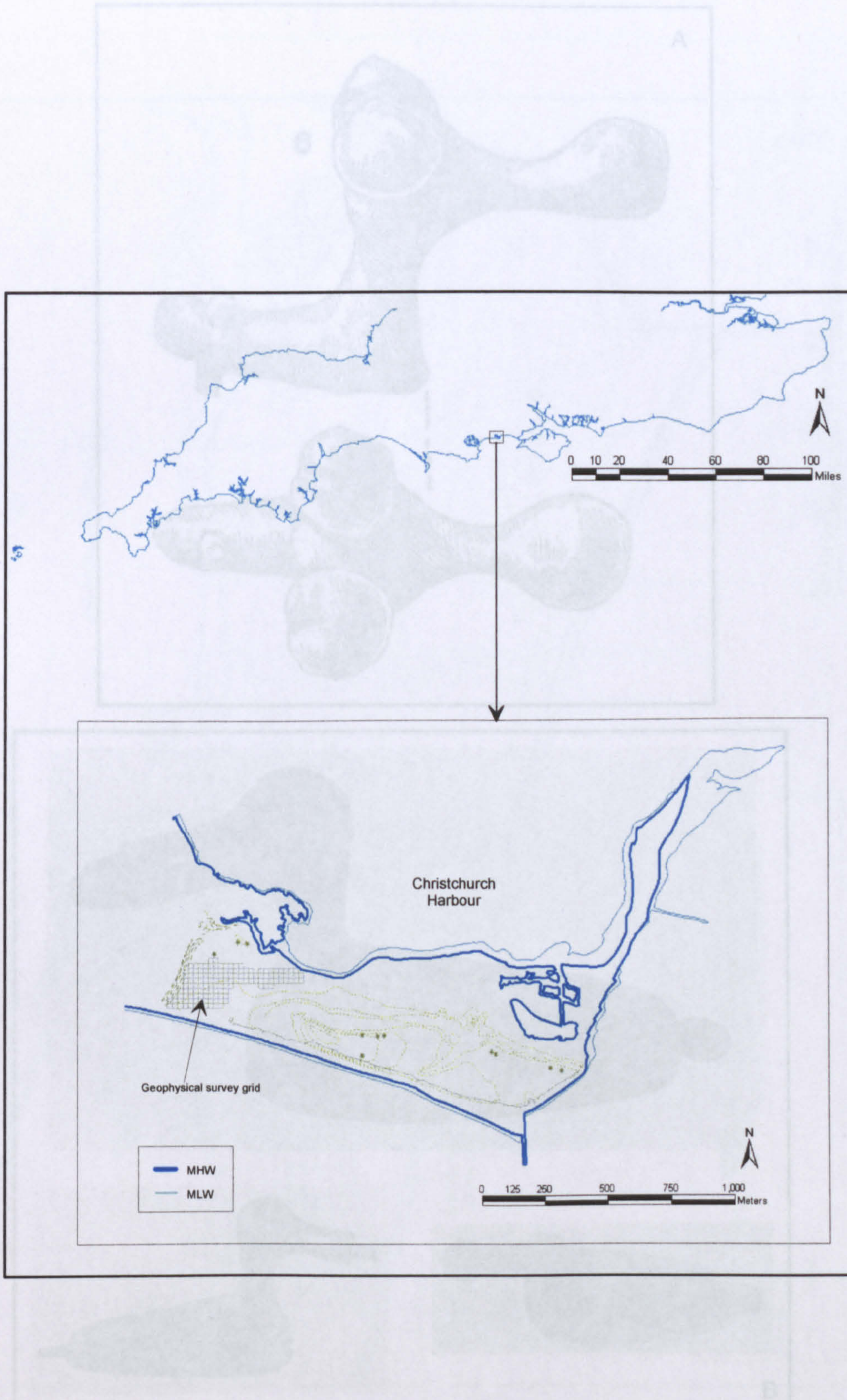

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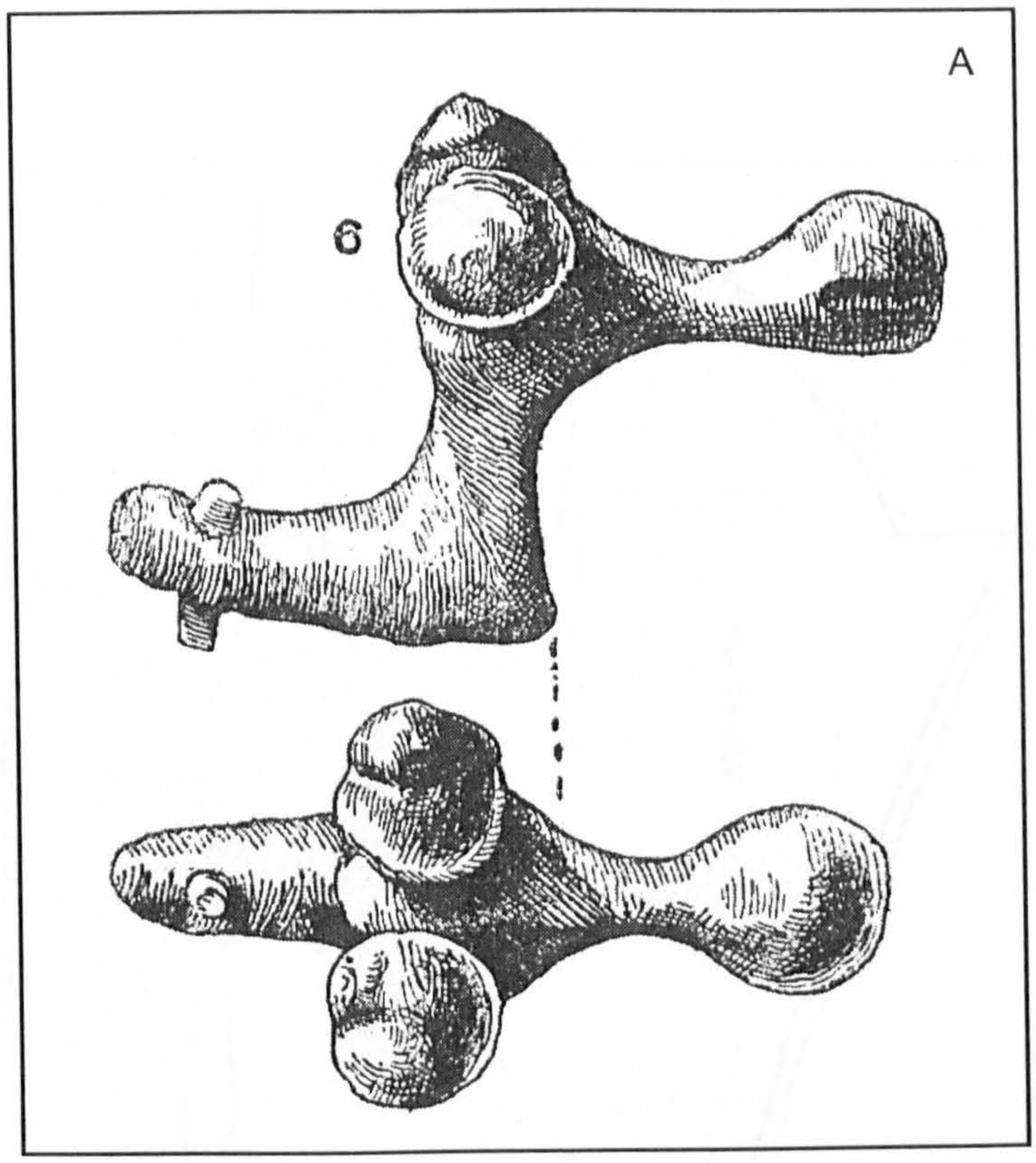
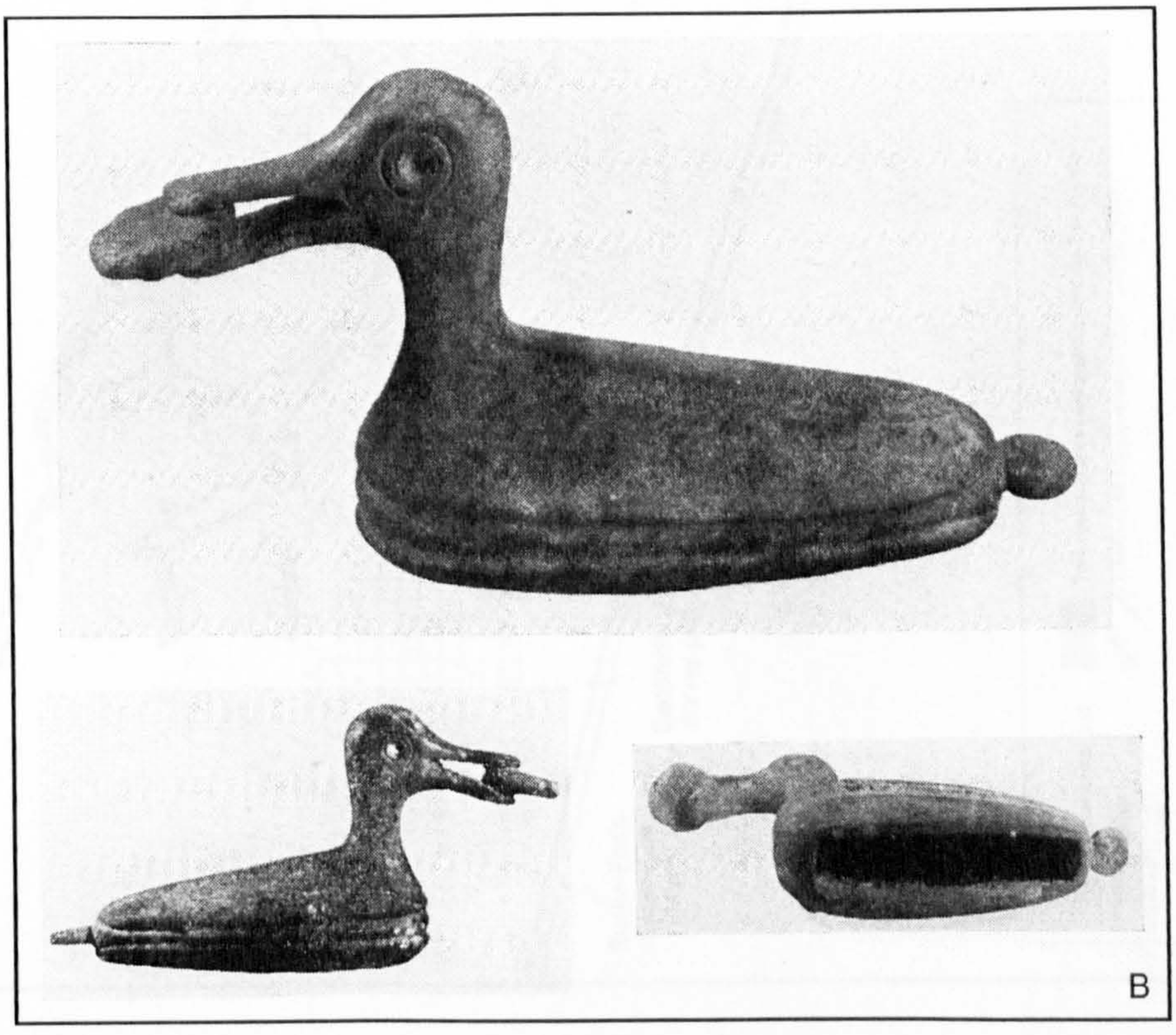




A: Bronze duck from Hengistbury Head (after Bushe-Fox 1915, plate XXIX object 6)
B: Bronze duck from Milber Camp (after Fox et al. 1949, plate xiii)

Figure 17: Representations of ducks recovered from Hengistbury Head, Dorset and Milber Camp, Devon.

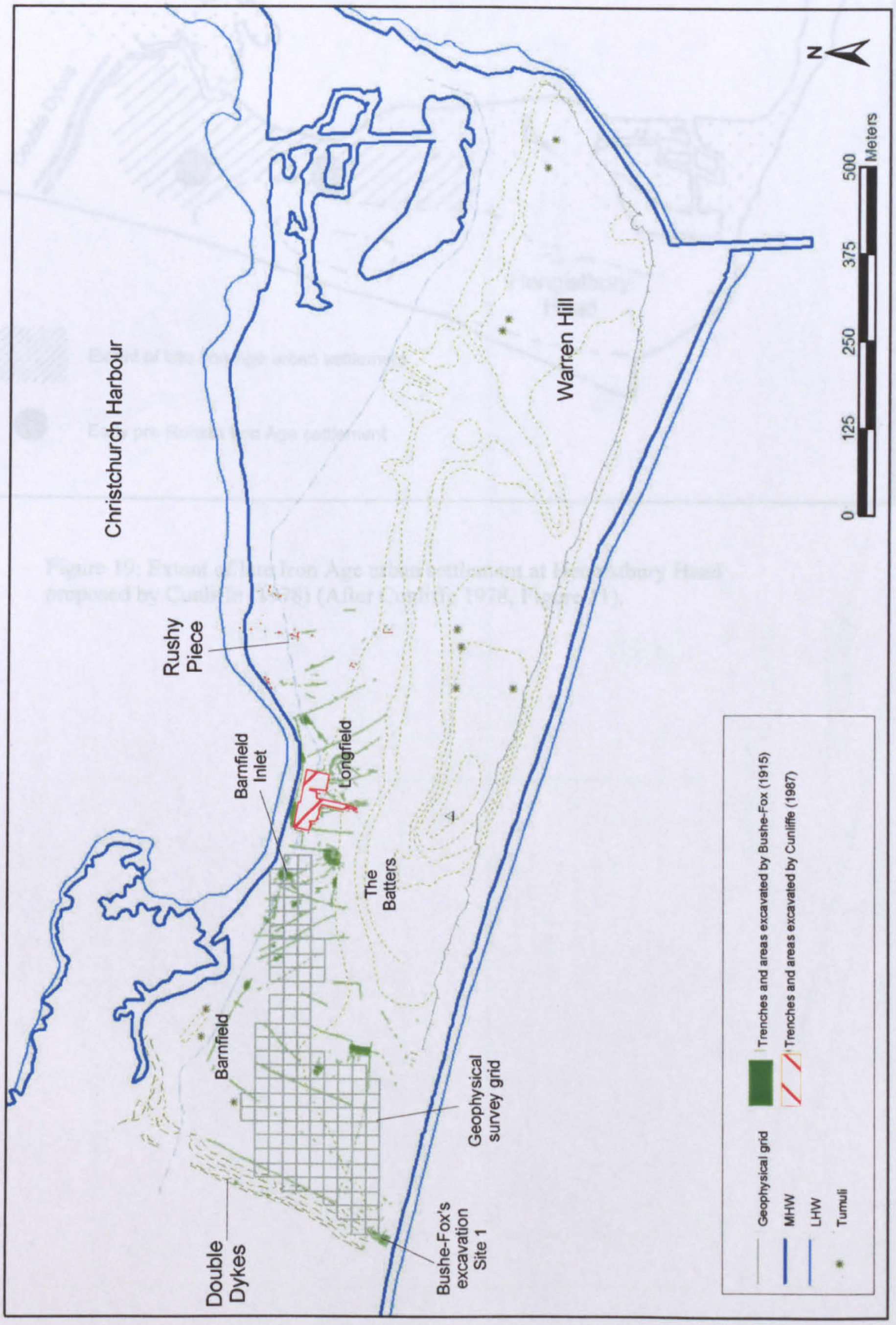


Figure 18: Areas of geophysical survey and previous excavation at Hengistbury Head, Dorset.

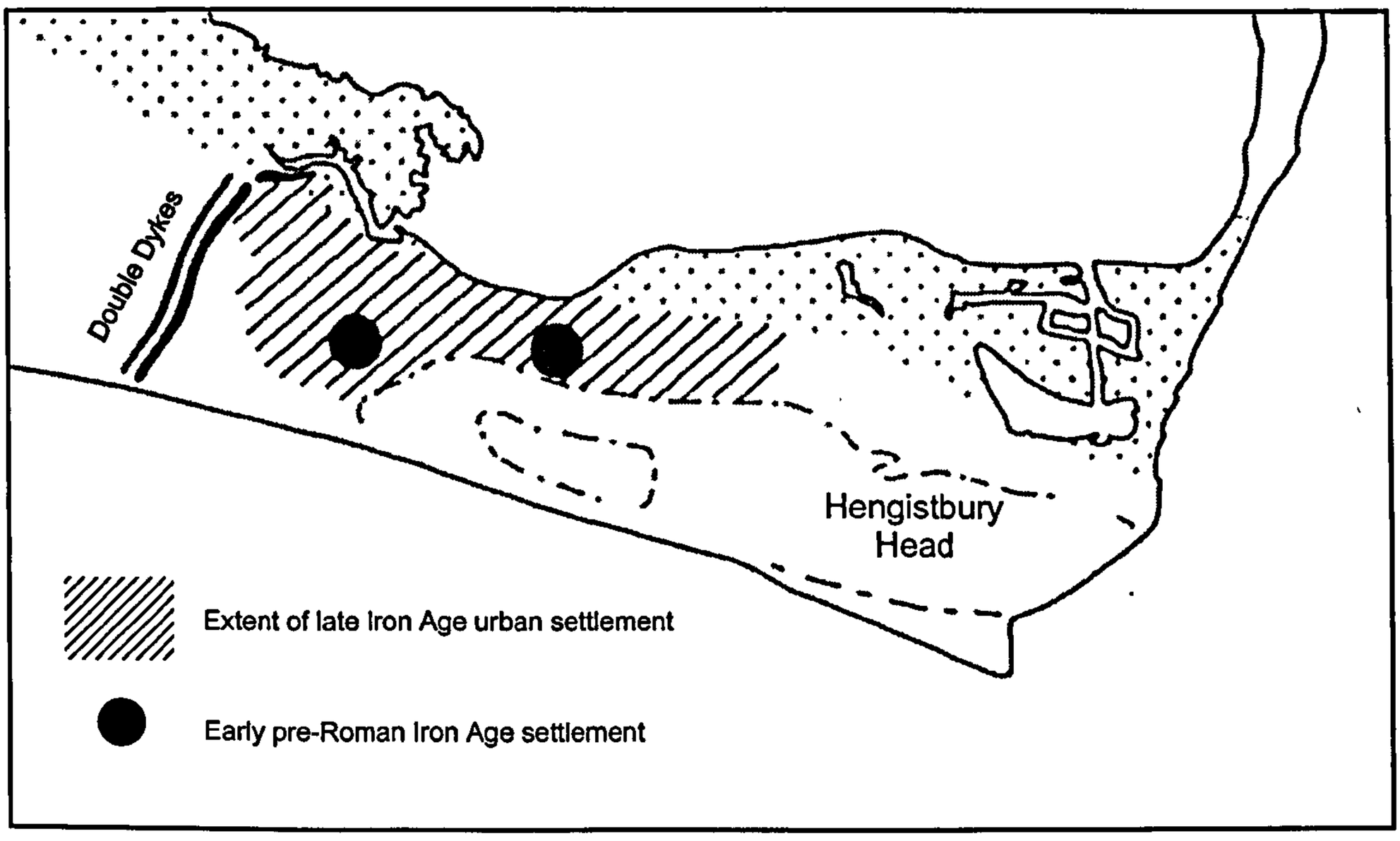


Figure 19: Extent of late Iron Age urban settlement at Hengistbury Head proposed by Cunliffe (1978) (After Cunliffe 1978, Figure 11).

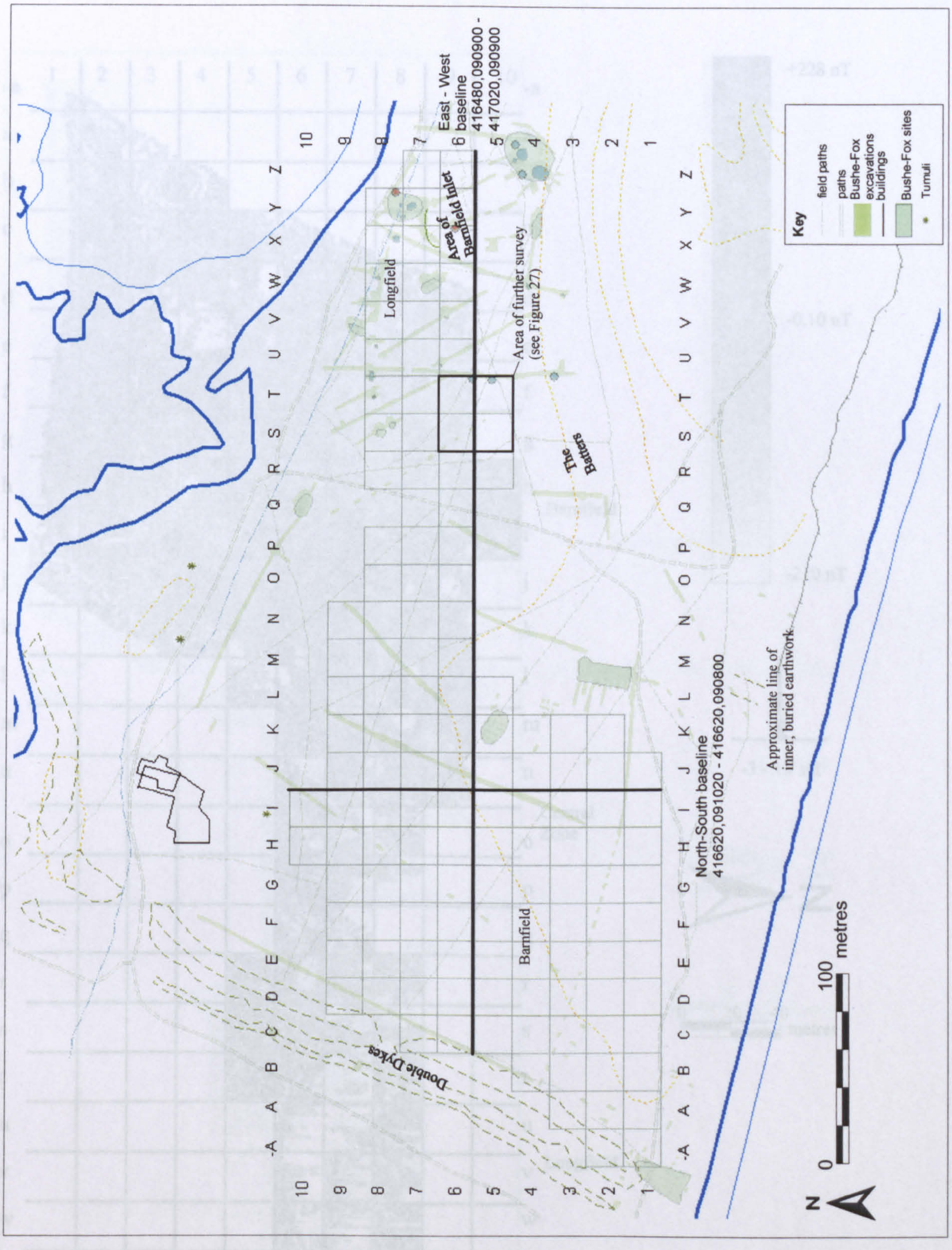


Figure 20: Hengistbury Head primary and further geophysical survey grid and the locations of earlier excavations.

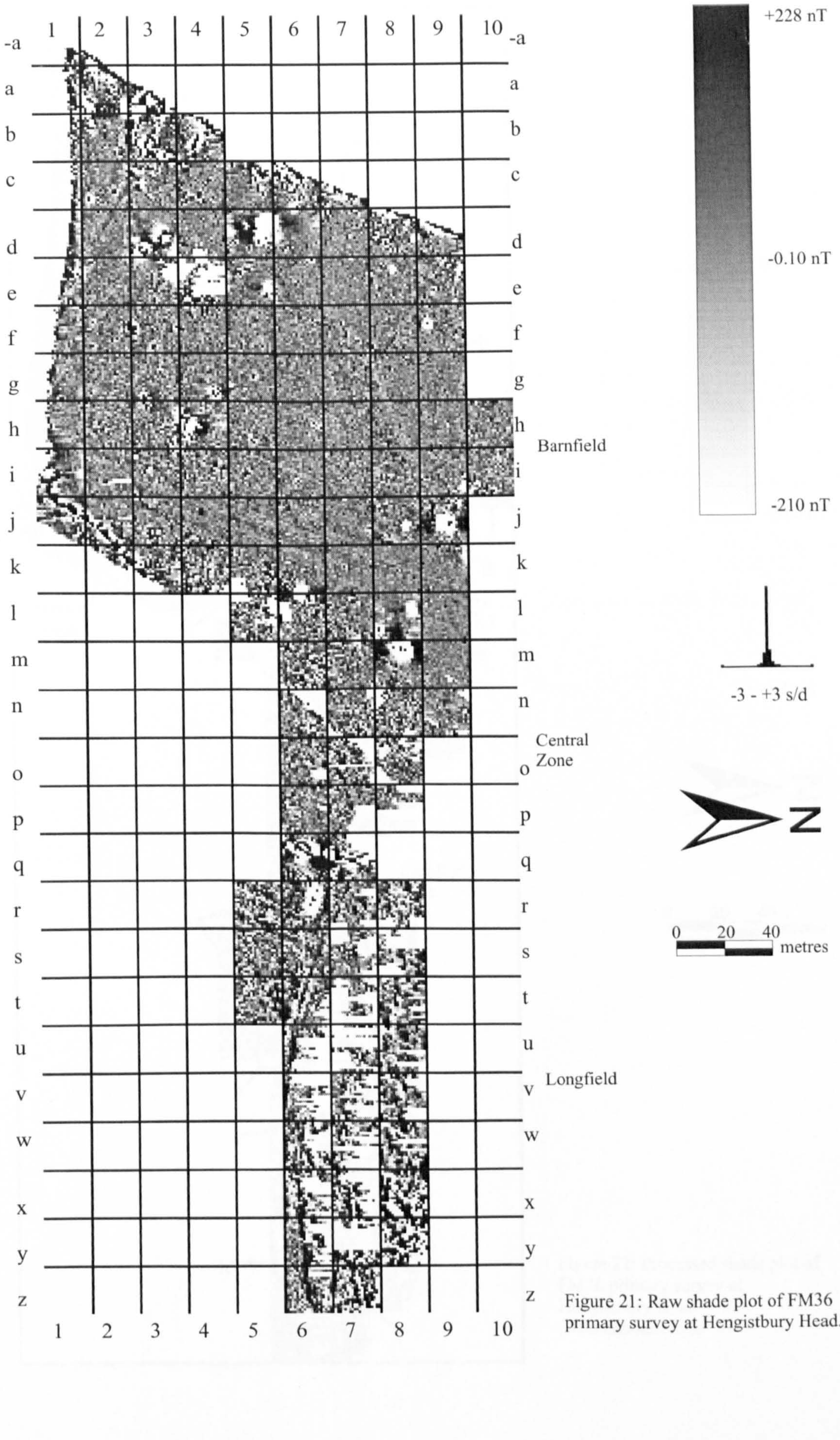


Figure 21: Raw shade plot of FM36 primary survey at Hengistbury Head.

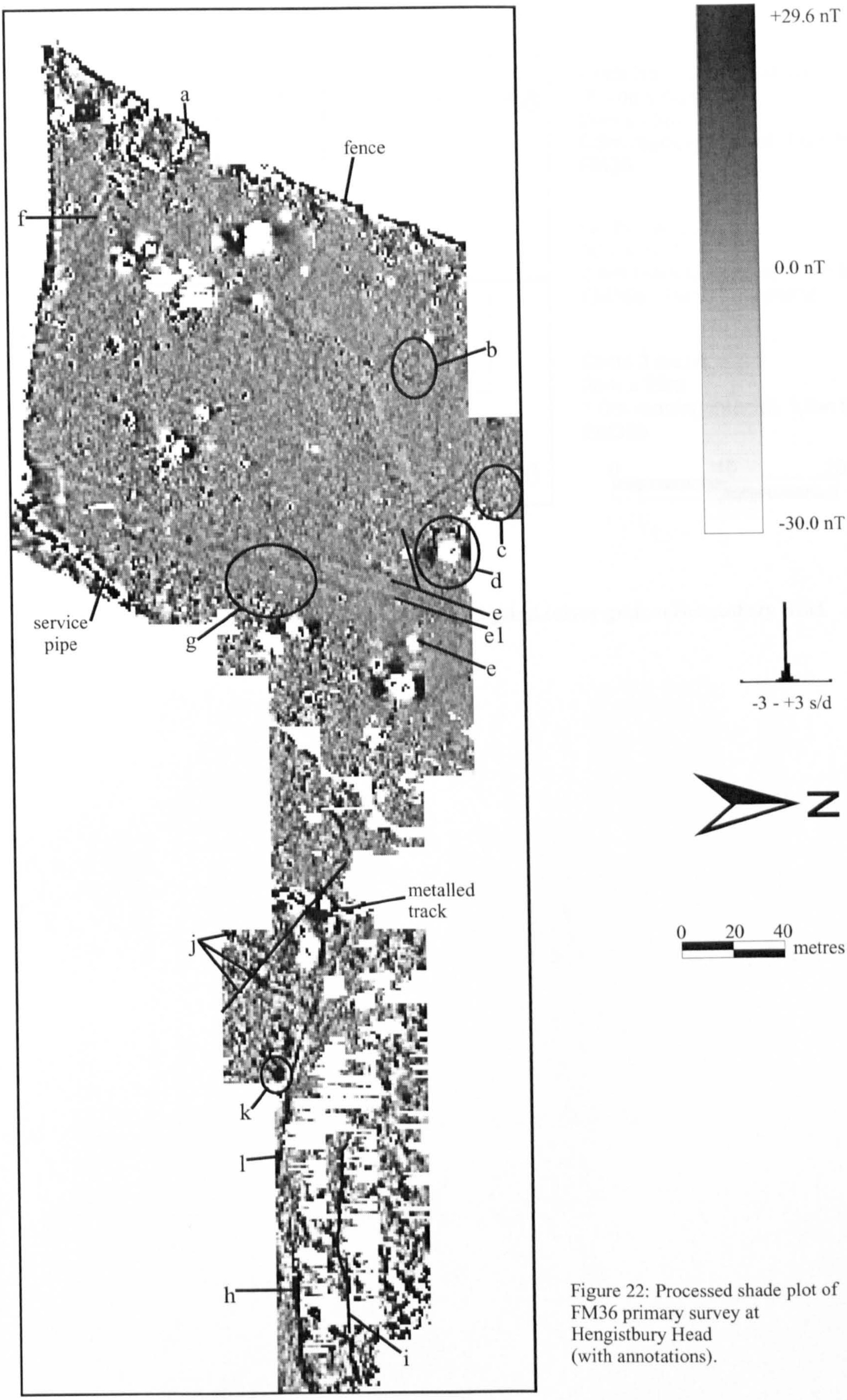


Figure 22: Processed shade plot of FM36 primary survey at Hengistbury Head (with annotations).

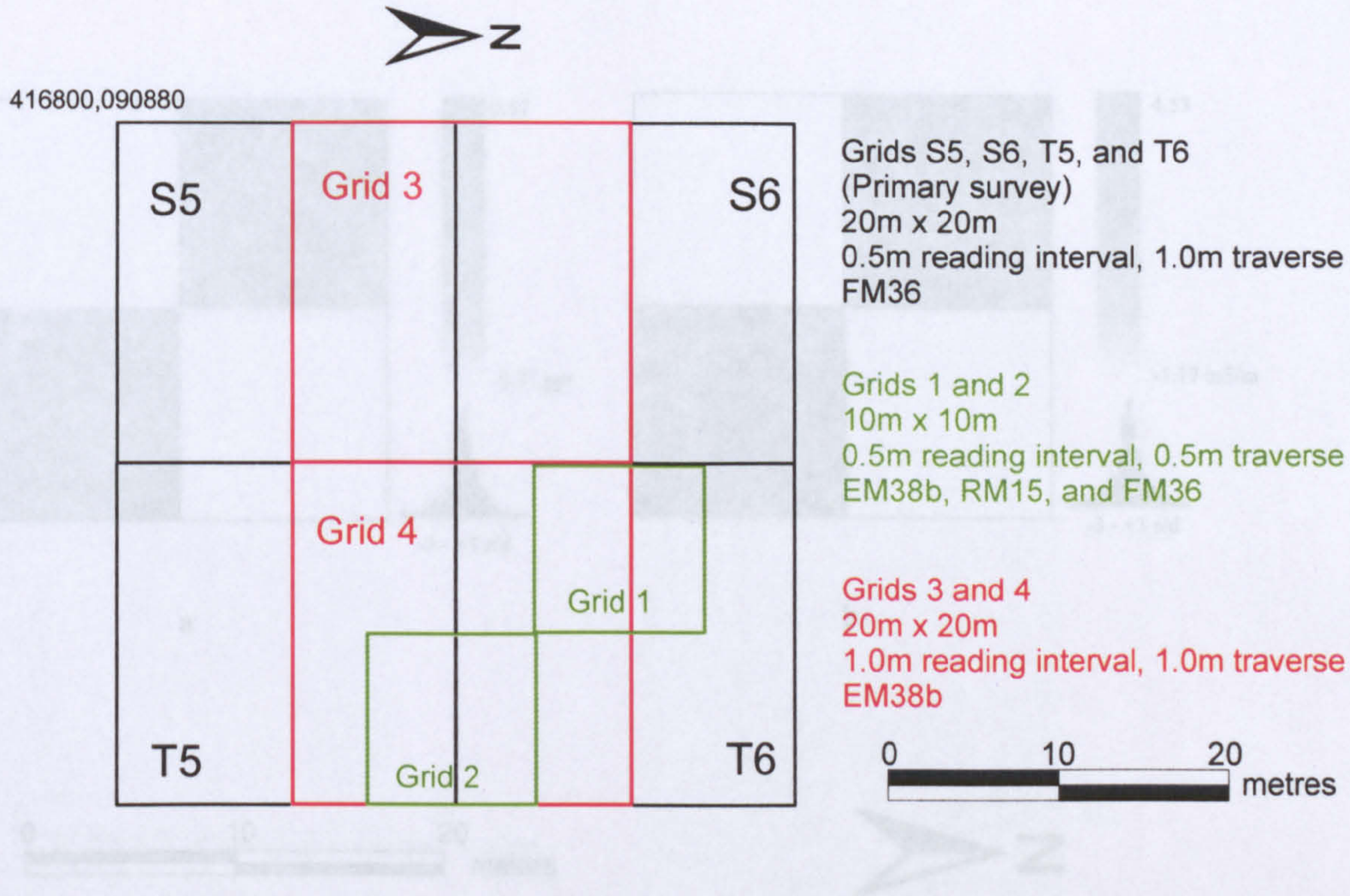
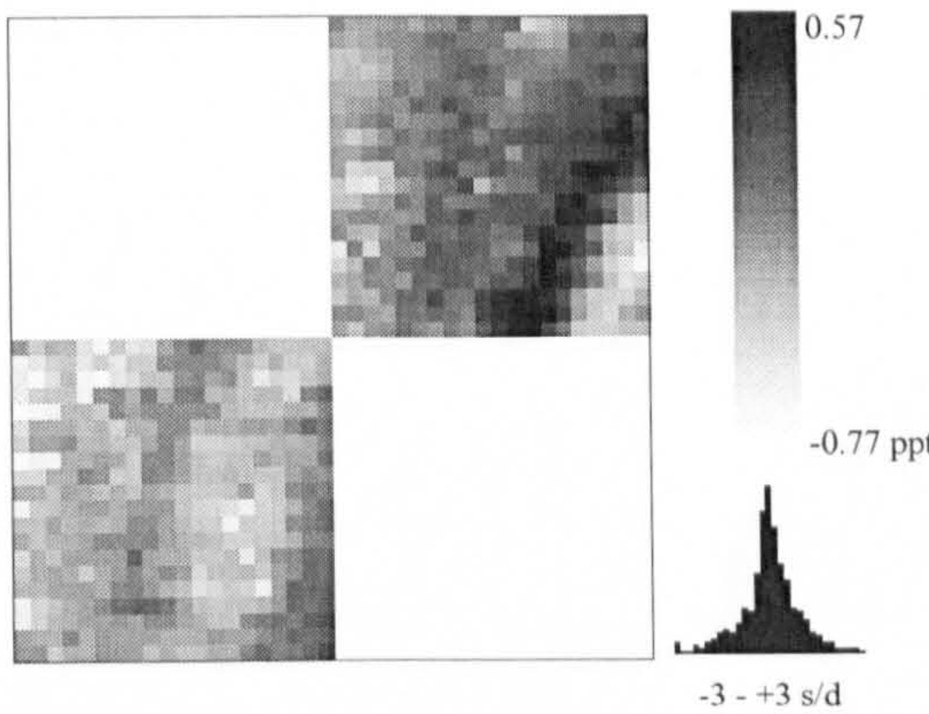
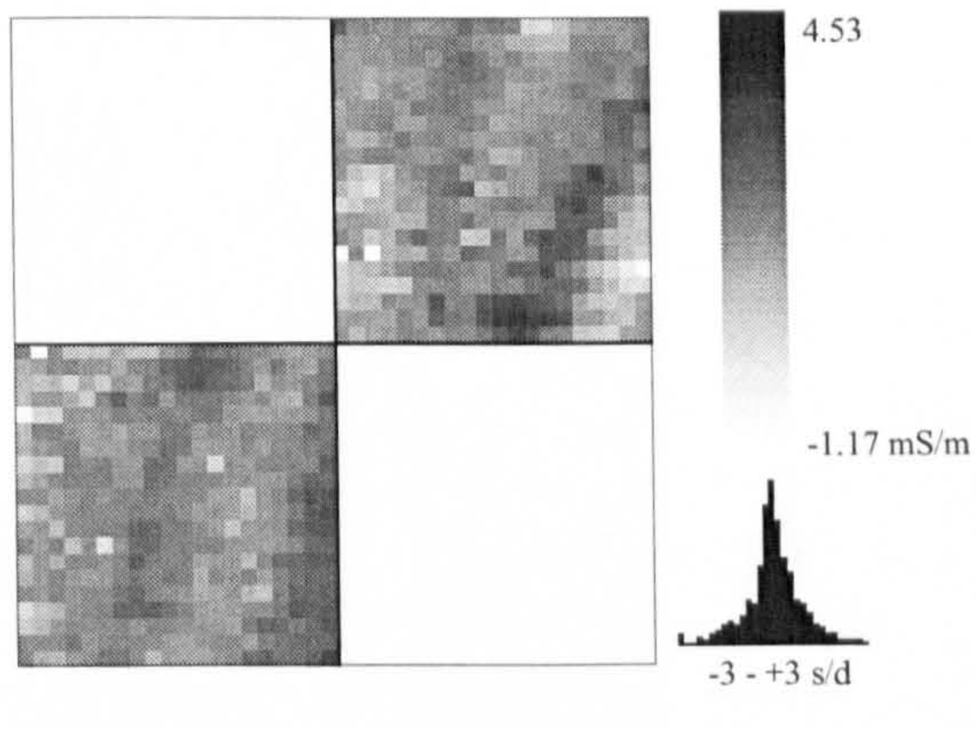


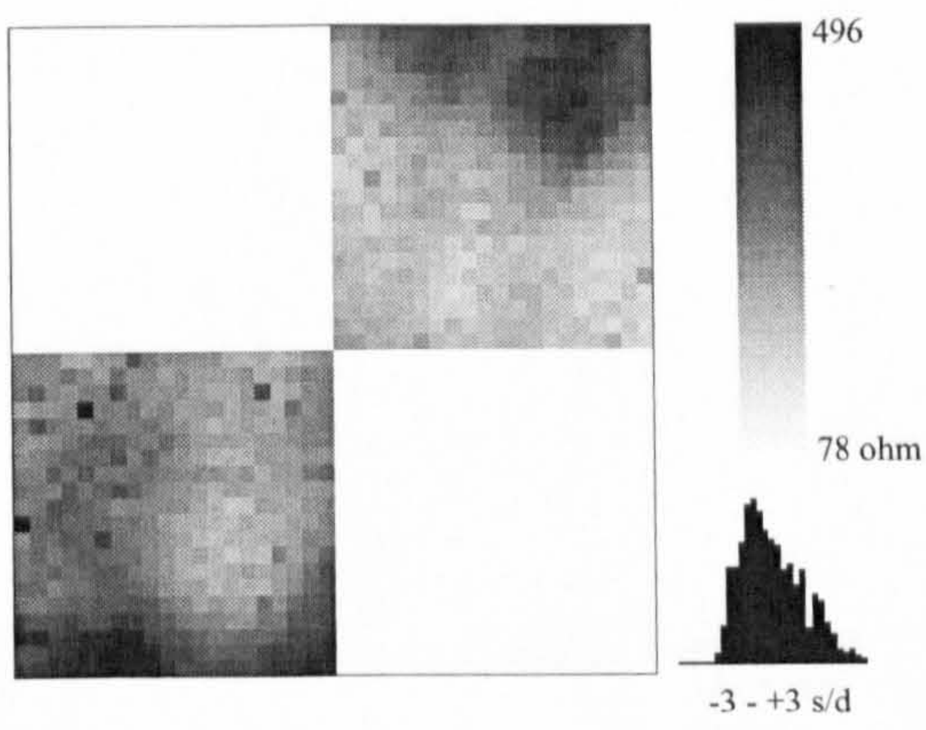
Figure 23: Arrangement of further geophysical survey grids at Hengistbury Head.



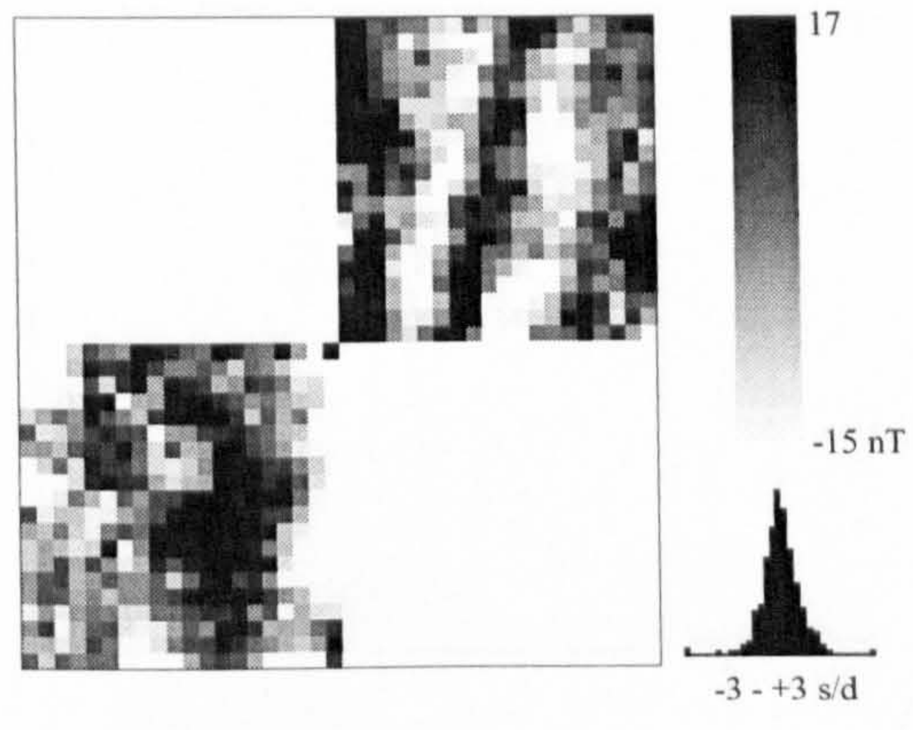
a



b



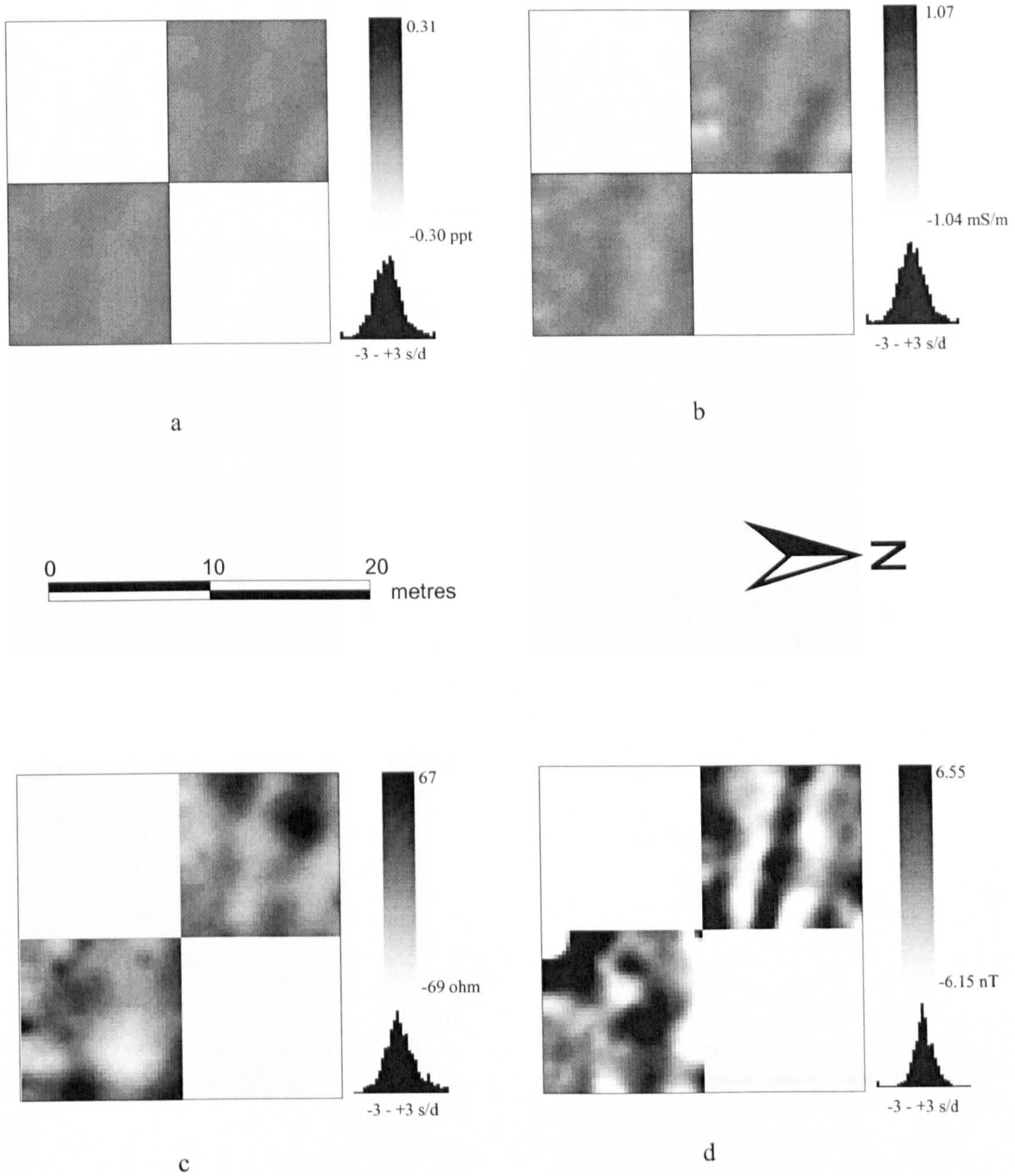
c



d

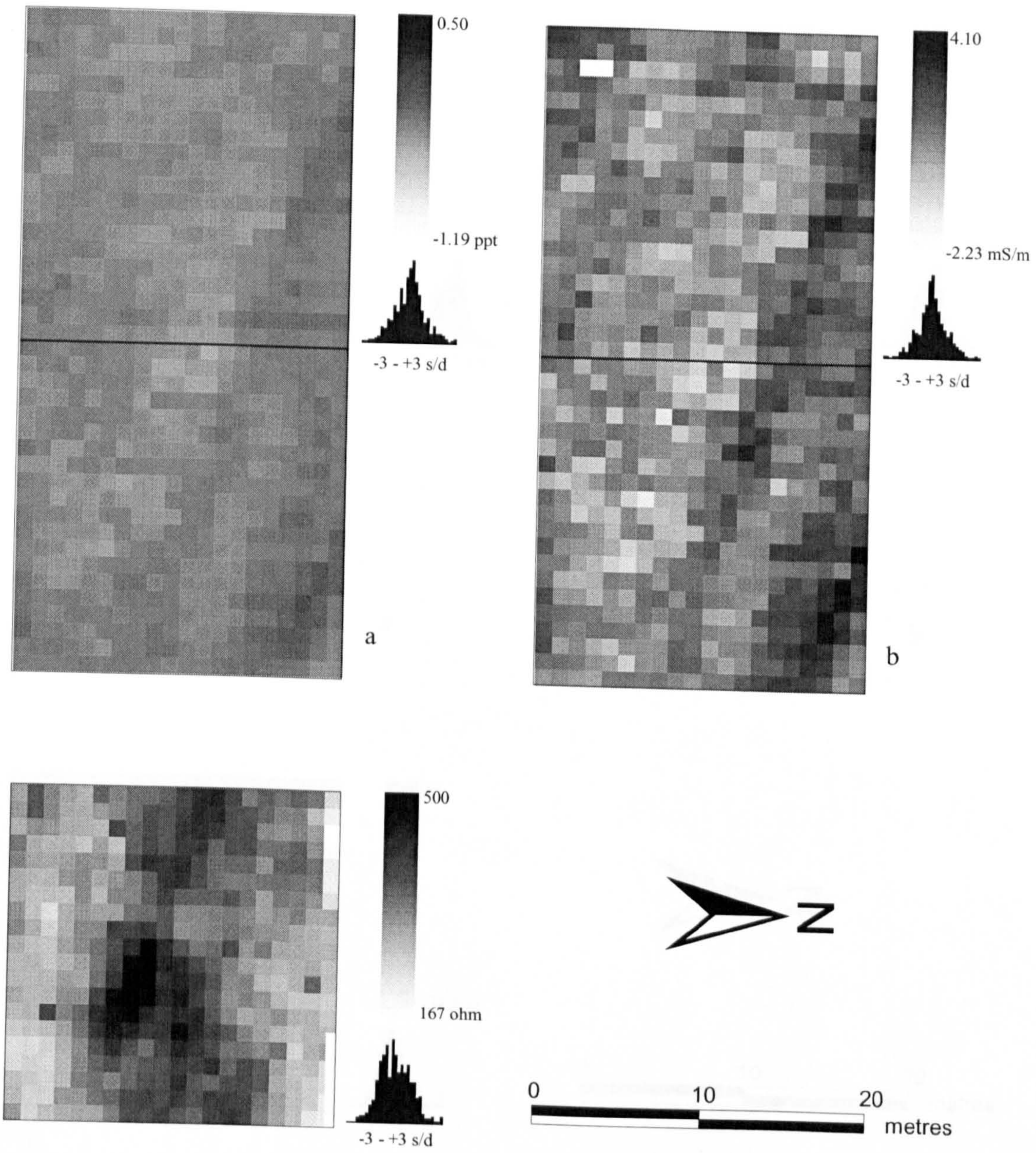
(a) EM38b inphase vertical dipole (b) EM38b quadrature component vertical dipole
(c) RM15 resistance (d) FM36 gradiometer (hi res).

Figure 24: Raw shade plots of further survey grids 1 and 2 at Hengistbury Head (10m x 10m)
(a, b, and c after Grasso 2003, Figure 20; d after Pearce 2003 Figure 5).



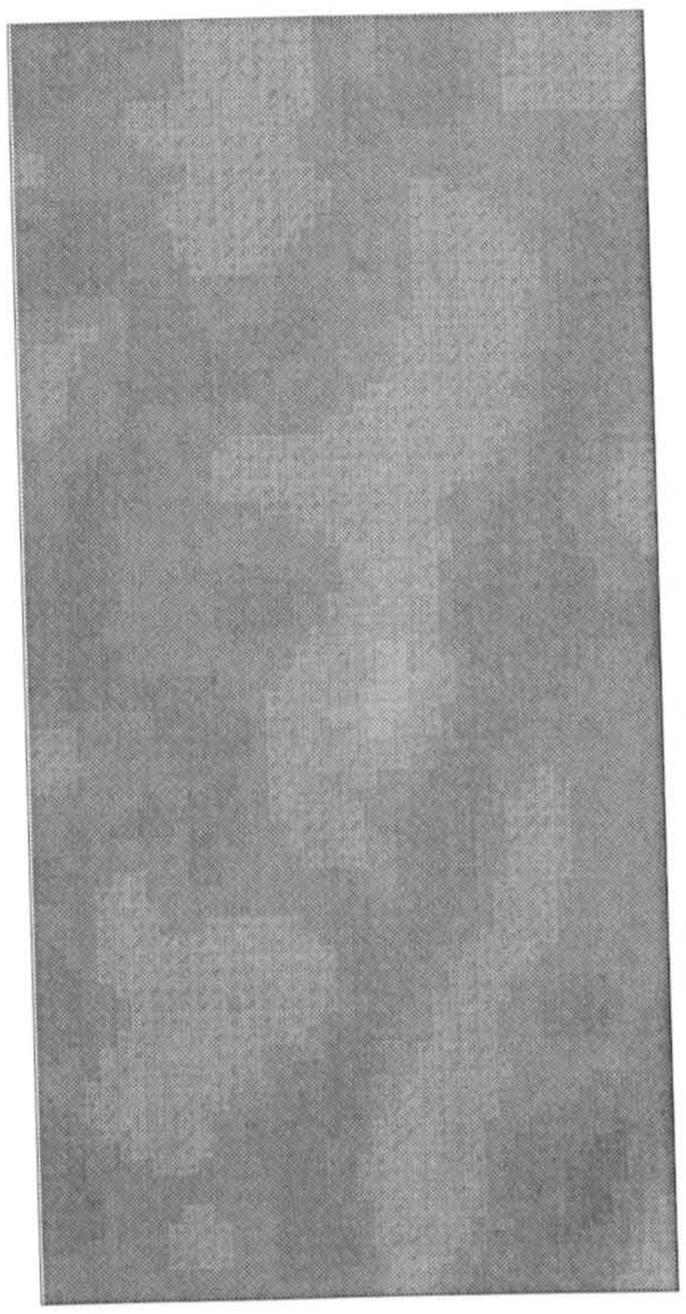
(a) EM38b inphase vertical dipole (b) EM38b quadrature component vertical dipole
(c) RM15 resistance (d) FM36 gradiometer (hi res).

Figure 25: Processed shade plots of further survey grids 1 and 2 at Hengistbury Head (10m x 10m)
(a, b, and c after Grasso 2003, Figure 22; d after Pearce 2003 Figure 5).

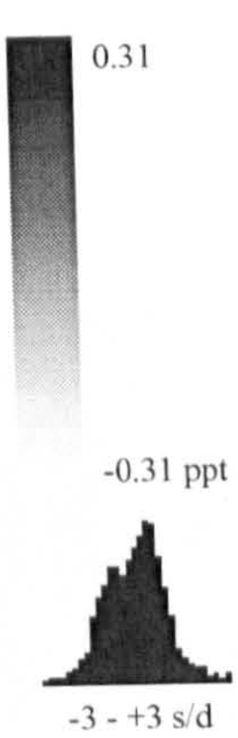


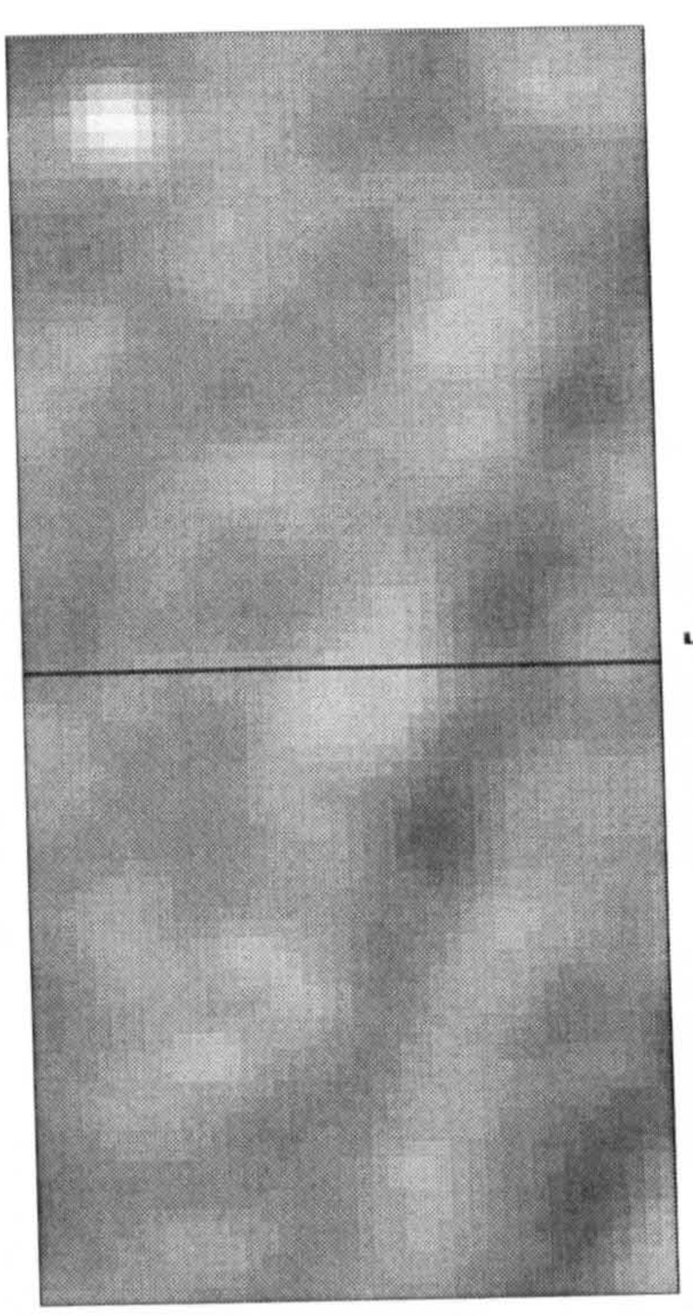
(a) EM38b inphase vertical dipole (b) EM38b quadrature component vertical dipole
(c) RM15 resistance (grid 3).

Figure 26: Raw shade plots of further survey grids 3 and 4 at Hengistbury Head (20m x 20m) (After Grasso 2003, Figure 21).



a





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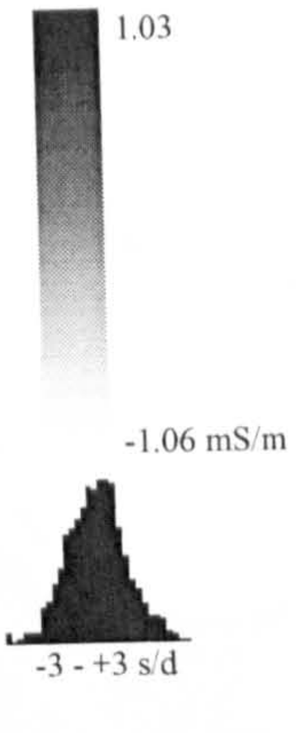

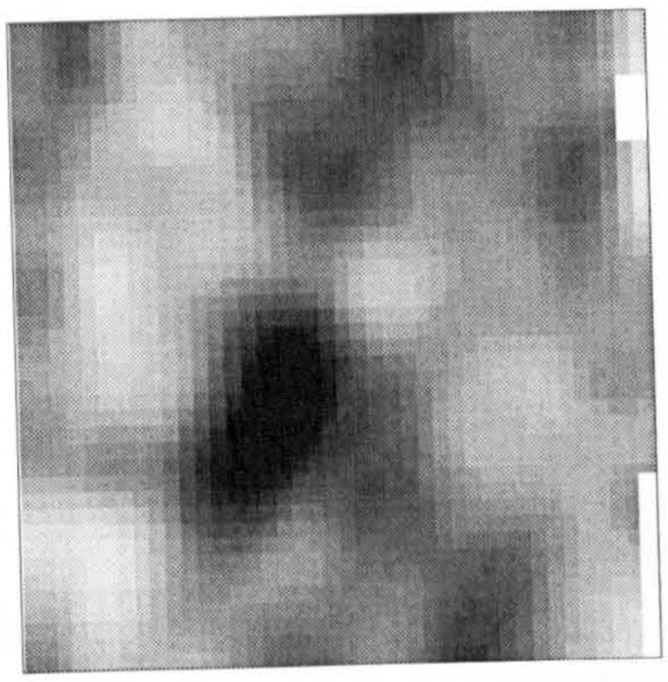

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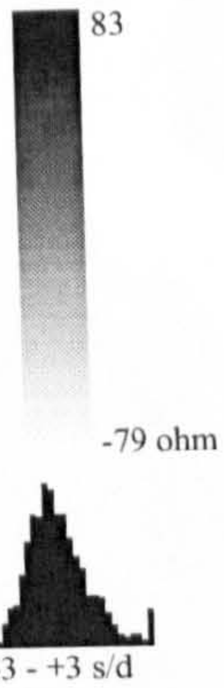


(a) EM38b inphase vertical dipole (b) EM38b quadrature component vertical dipole
(c) RM15 resistance (grid 3).

Figure 27: Processed shade plots of further survey grids 3 and 4 at Hengistbury Head (20m x 20m) (After Grasso 2003, Figure 23).

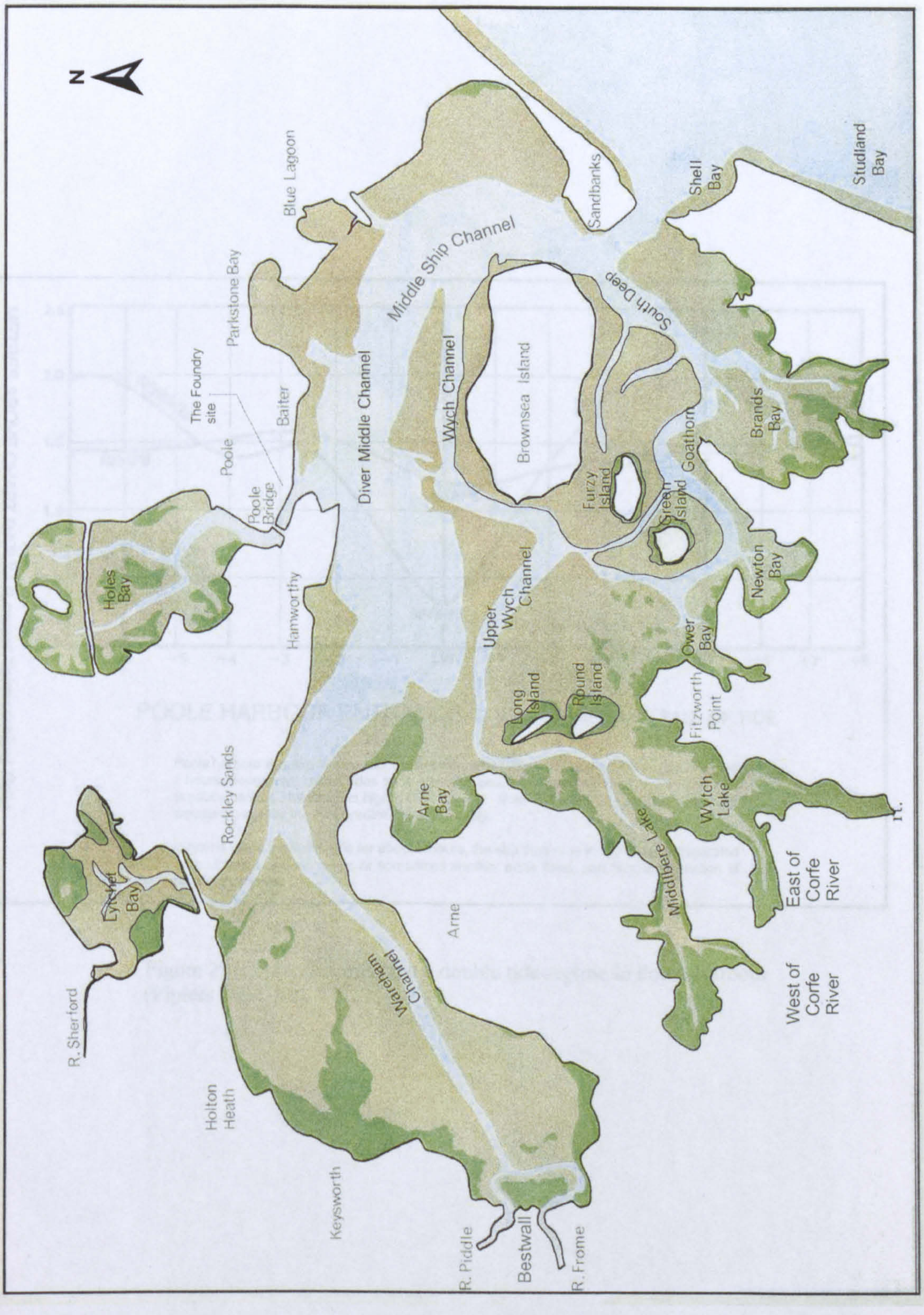


Figure 28: Map of Poole Harbour showing some of the places mentioned in the text.

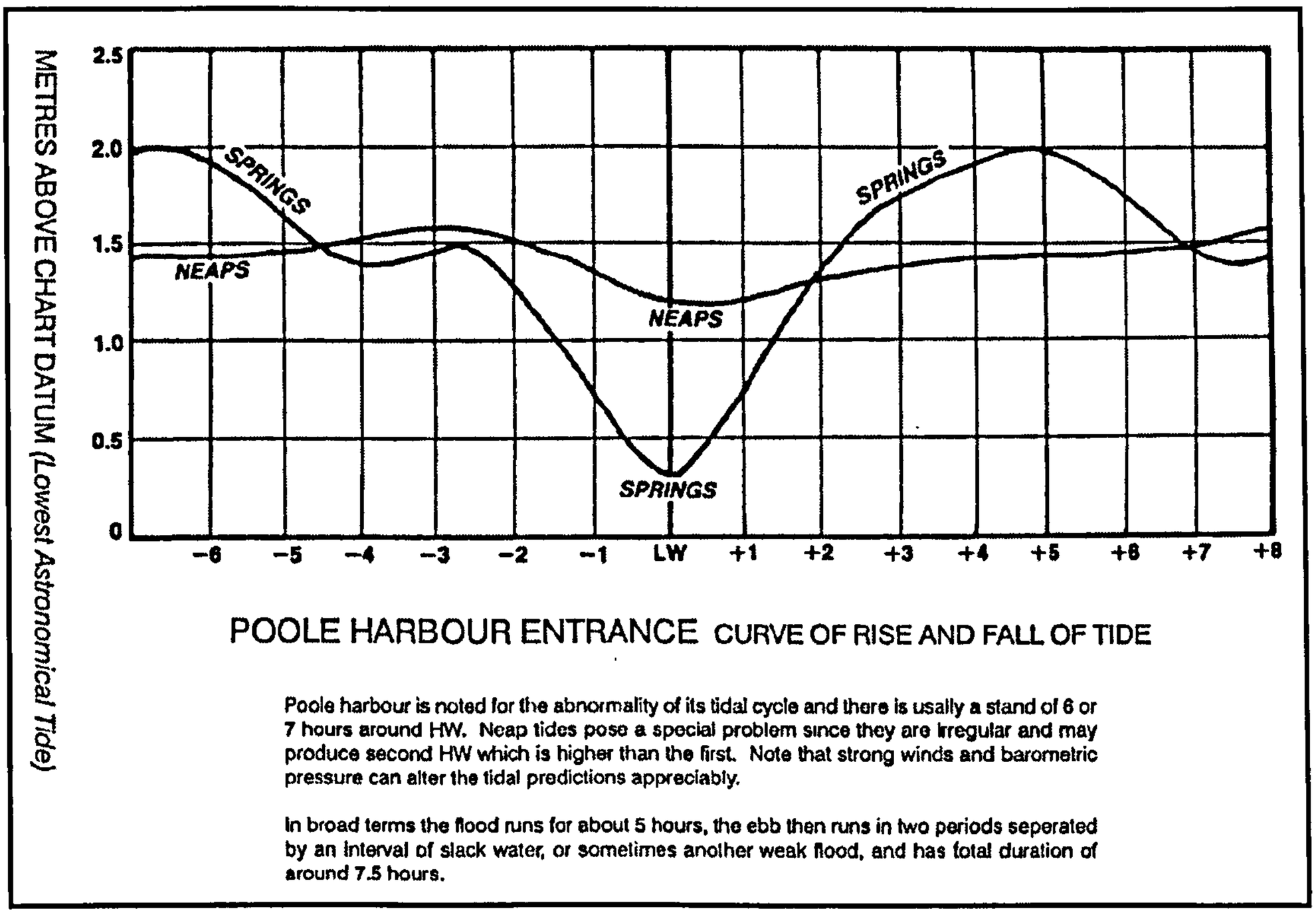


Figure 29: Graph illustrating the double tide regime in Poole Harbour (Piplers 2004, 49).

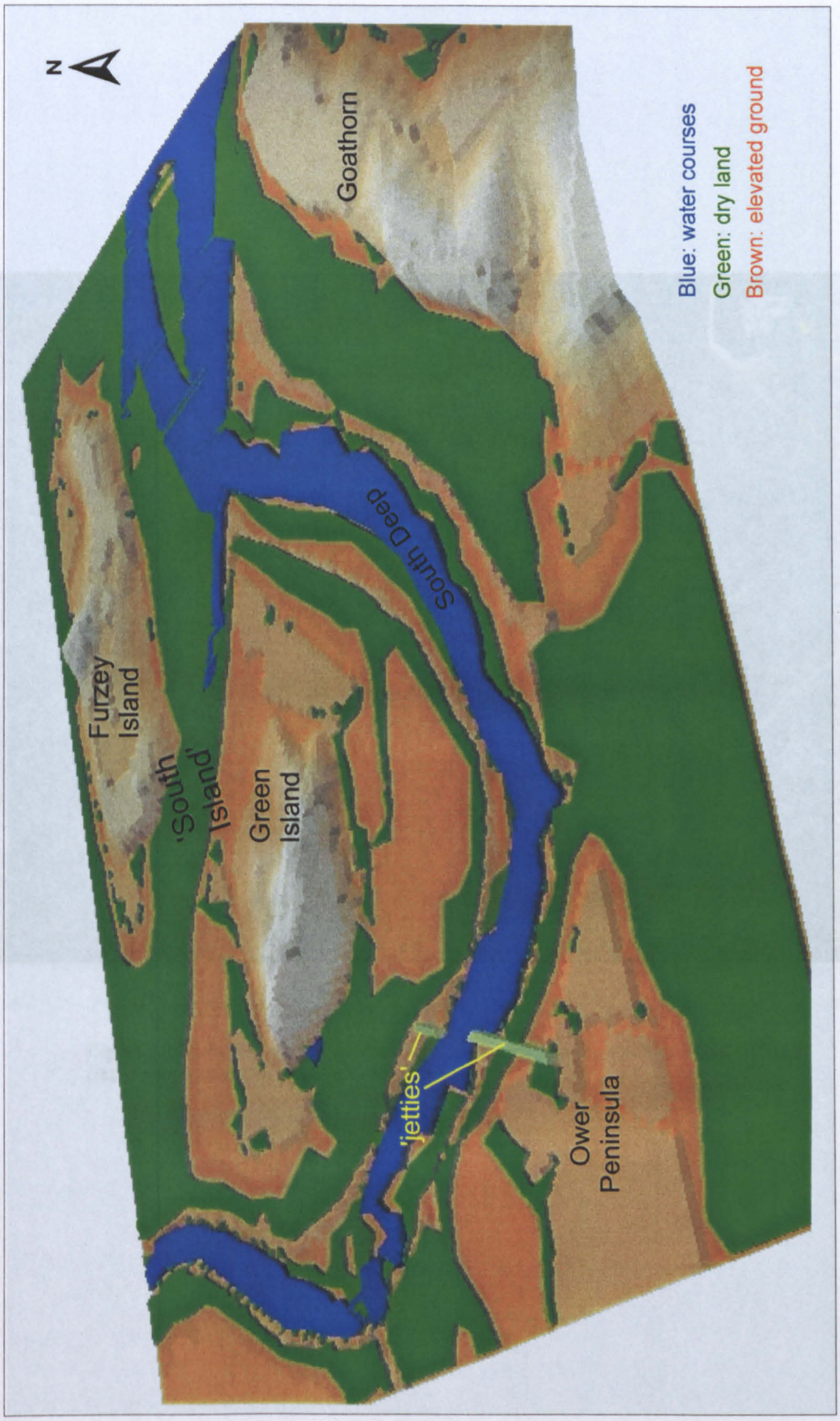


Figure 30: Suggested reconstruction of water level and land extent in southern Poole Harbour during the Iron Age.
(Image courtesy of VideoText Communication).

Figure 31: Main elements of the Iron Age coastal node in the south of Poole Harbour. (Base photograph Dorset County Council 1997).

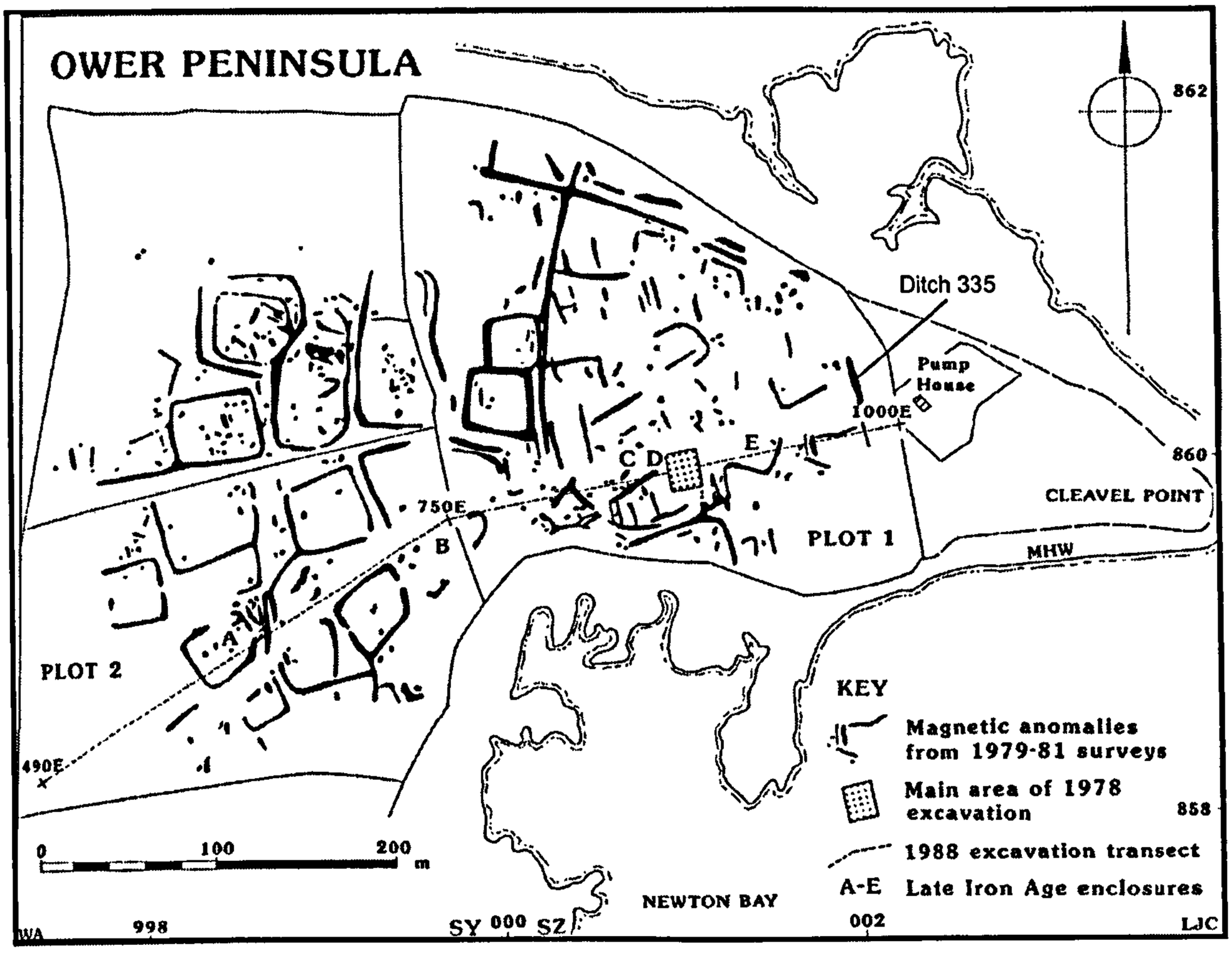


Figure 32: Plot of anomalies detected by geophysical survey at Ower Peninsula 1979-81 (after Cox and Hearne 1991, Figure 31).

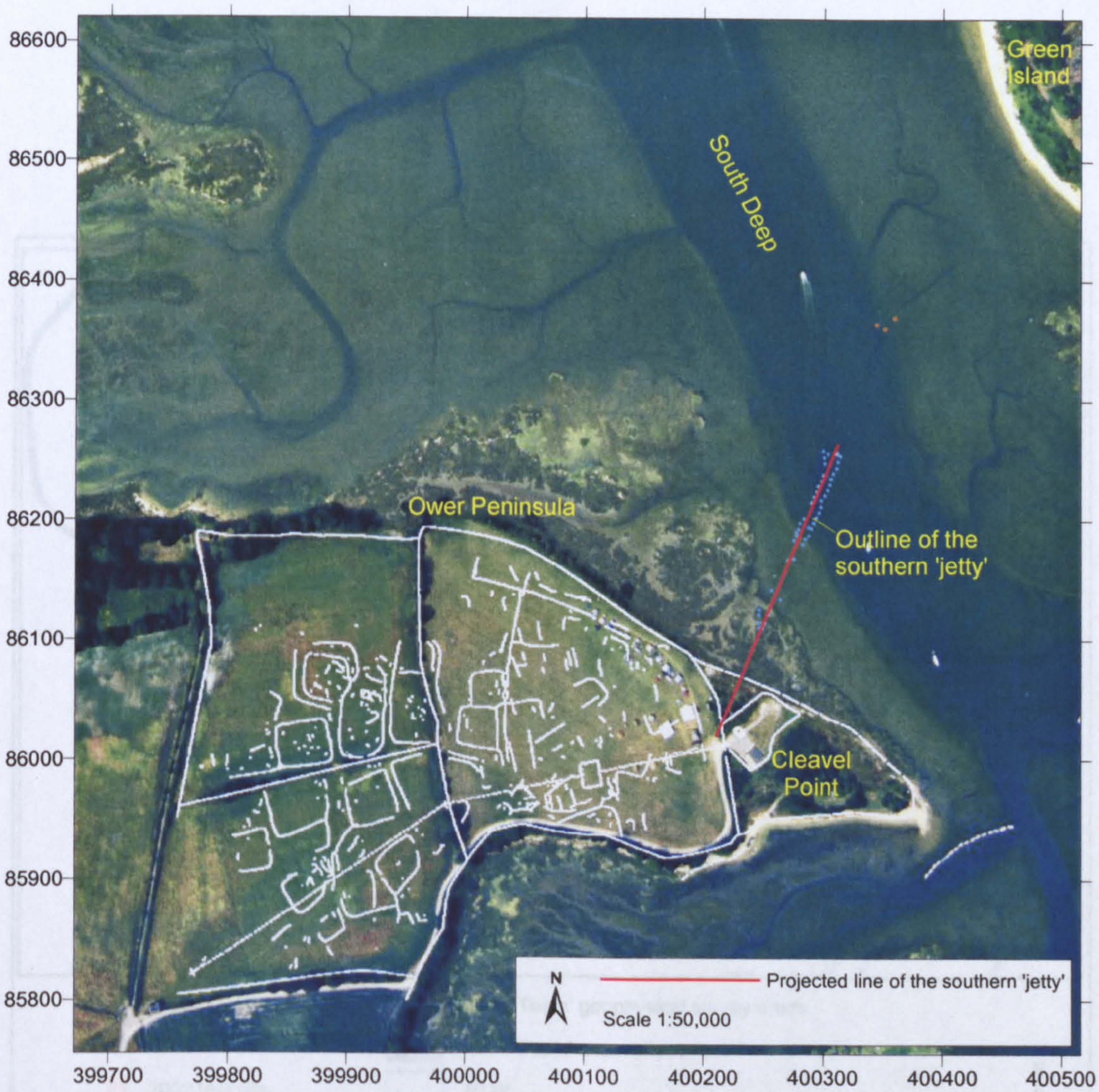


Figure 33: Ower Peninsula - anomalies detected by geophysical survey, outline of the southern 'jetty' in South Deep (determined by probing), and the projected line of the 'jetty' onto the peninsula.
(Base photograph Dorset County Council 1997; geophysical survey outline Cox and Hearne 1991, Figure 31.)

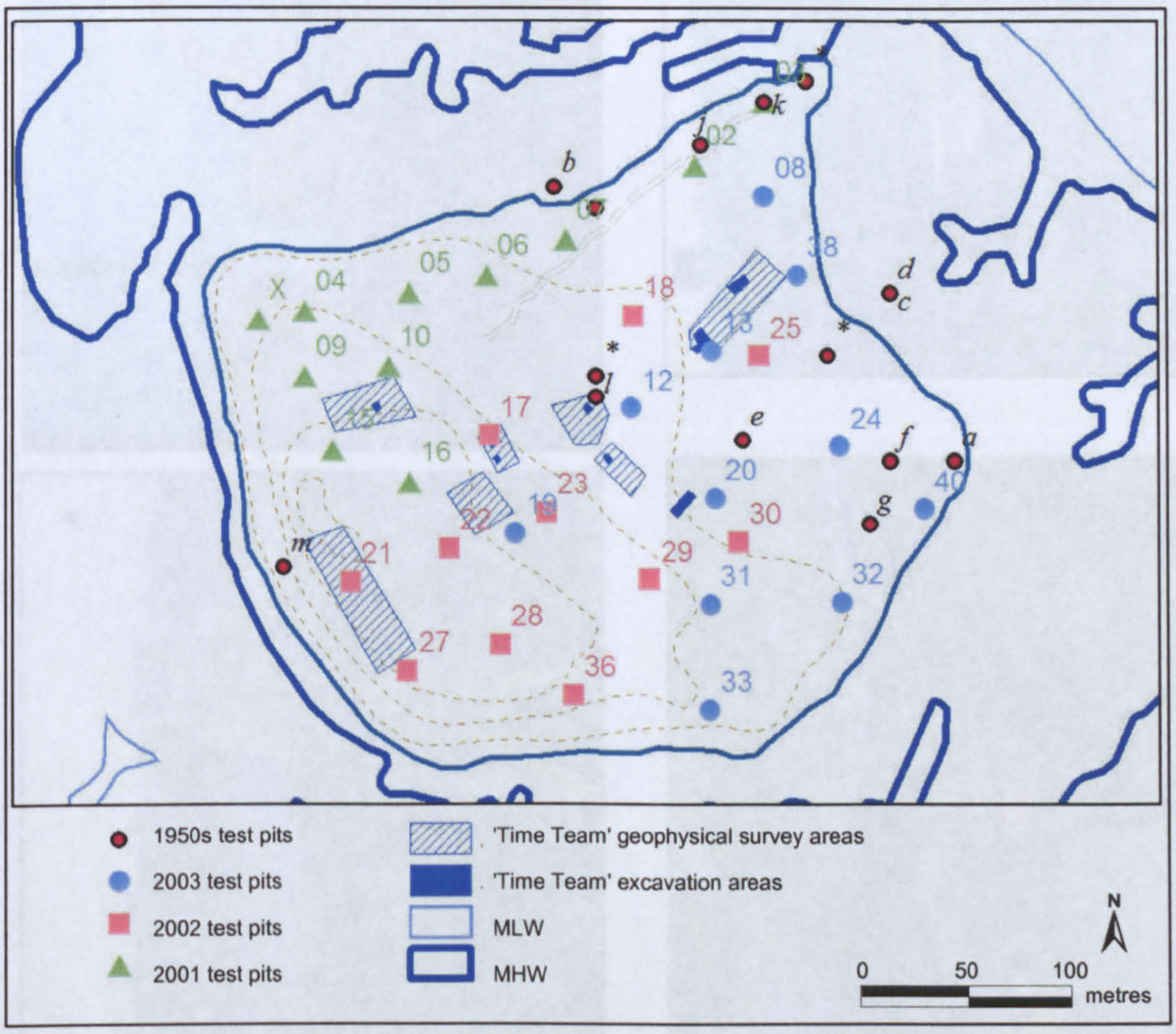
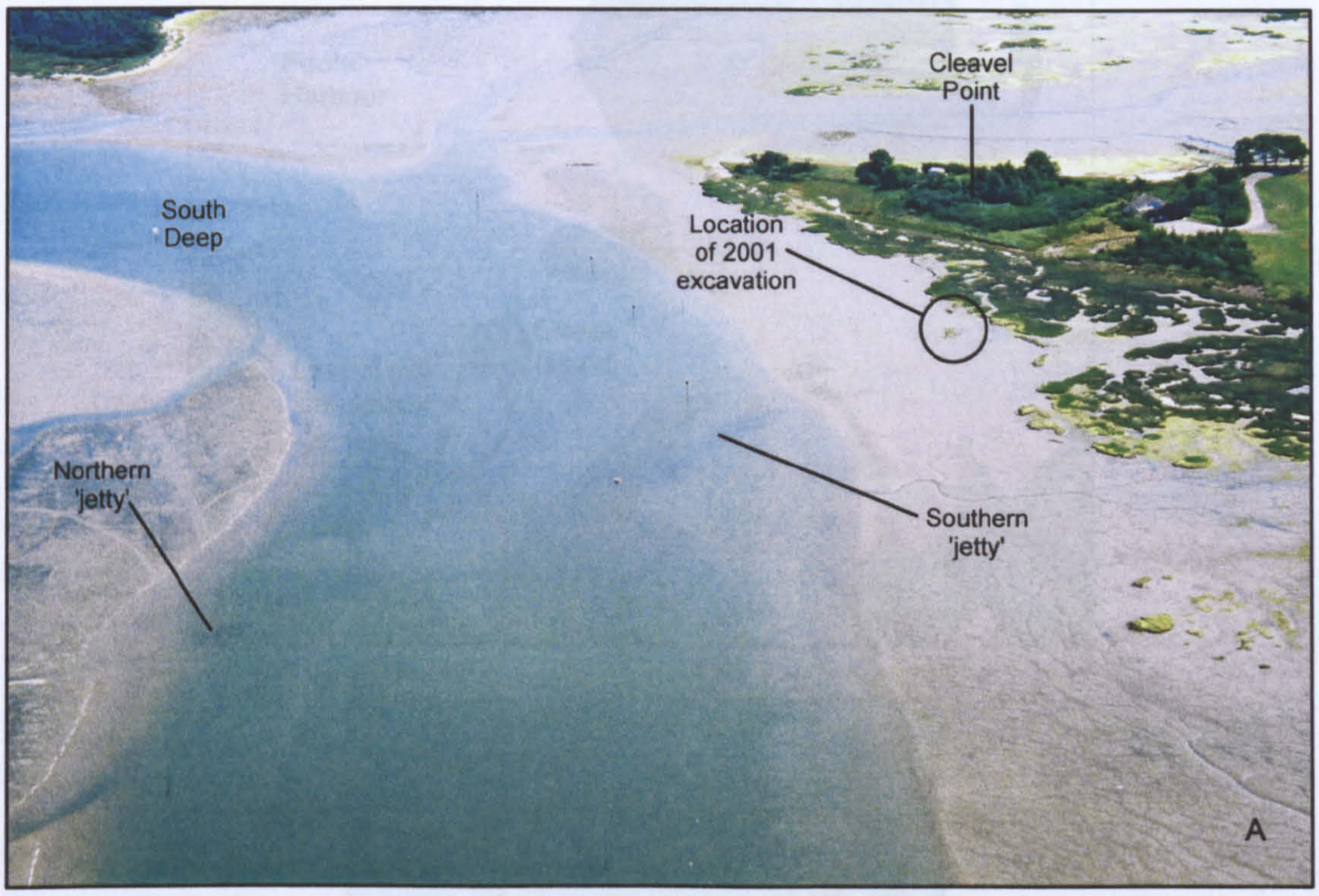


Figure 34: The locations of geophysical survey areas, test pits and excavation trenches on Green Island, Poole Harbour.

A - Pre-excavation survey in South Deep, August 2001, looking from Cleavel Point towards Green Island.
B - Start of the excavation as the tide ran out (photo: L Baldock).
C - Recording the section (line is approximately on the surface of the structure) (photo: M A'Court).
D - Section through the 'jetty' showing brushwood and timber pile.

Figure 35: Excavation of the southern 'jetty', August 2001.



A: View approximately south-west from the air over South Deep, 10 July 2003.
The two 'jetties' are just visible beneath the surface of the water.
B: Looking along the southern 'jetty' towards South Deep, 27 March 2002.
The conditions required for the 'jetties" to break the water surface in this way at very low water rarely occur.

Figure 36: Two 'jetties' running into South Deep, Poole Harbour.

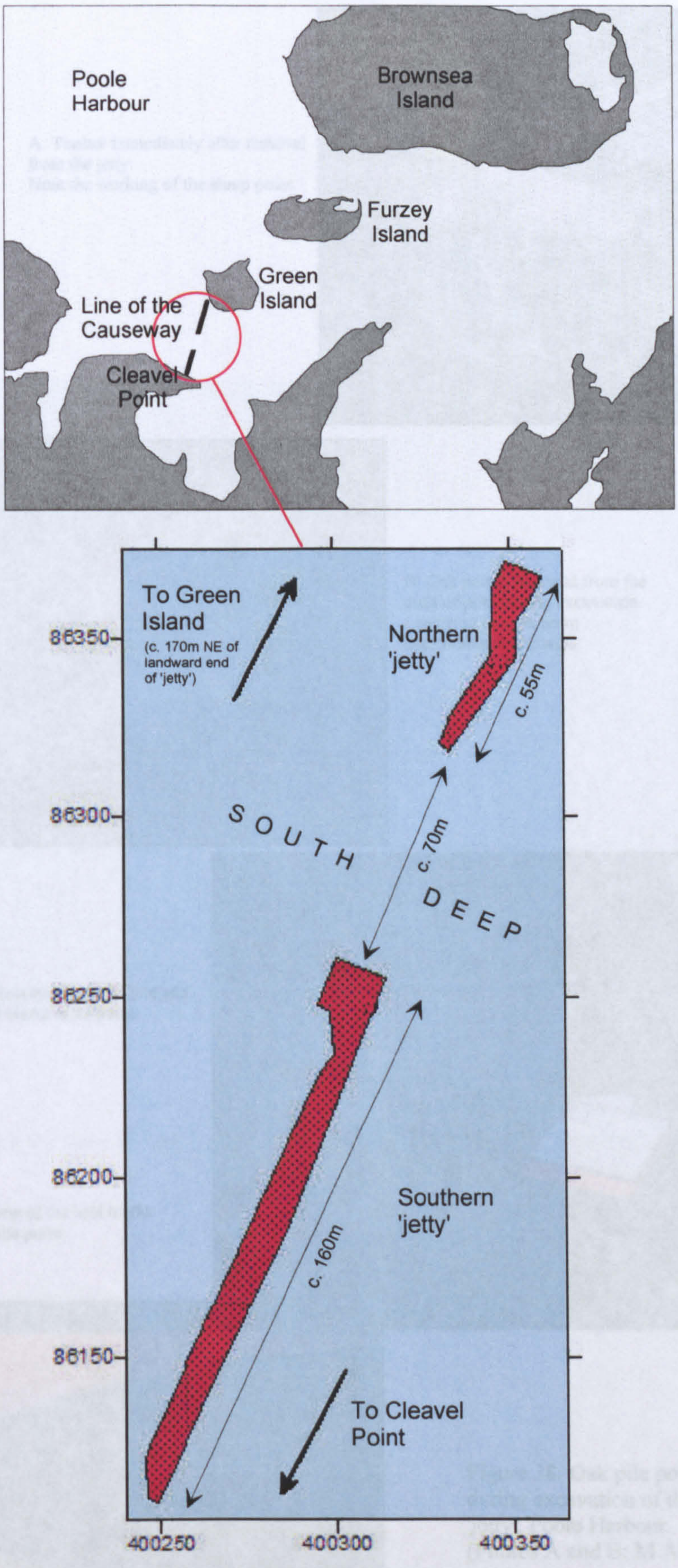


Figure 37: Outline of two 'jetties' in South Deep, Poole Harbour, determined by probe survey. (Lower figure after Markey 2003, Figure 1).

A: Timber immediately after removal from the jetty.
Note the working of the sharp point.

B: Oak points removed from the ends of piles during excavation. Length of longest point approximately 400mm.

C: Recording an oak pile and tool marks at its point.

D: Closer view of the tool marks on the oak pile point.

Figure 38: Oak pile points retrieved during excavation of the southern 'jetty', Poole Harbour.
(Photos A and B: M A'Court).

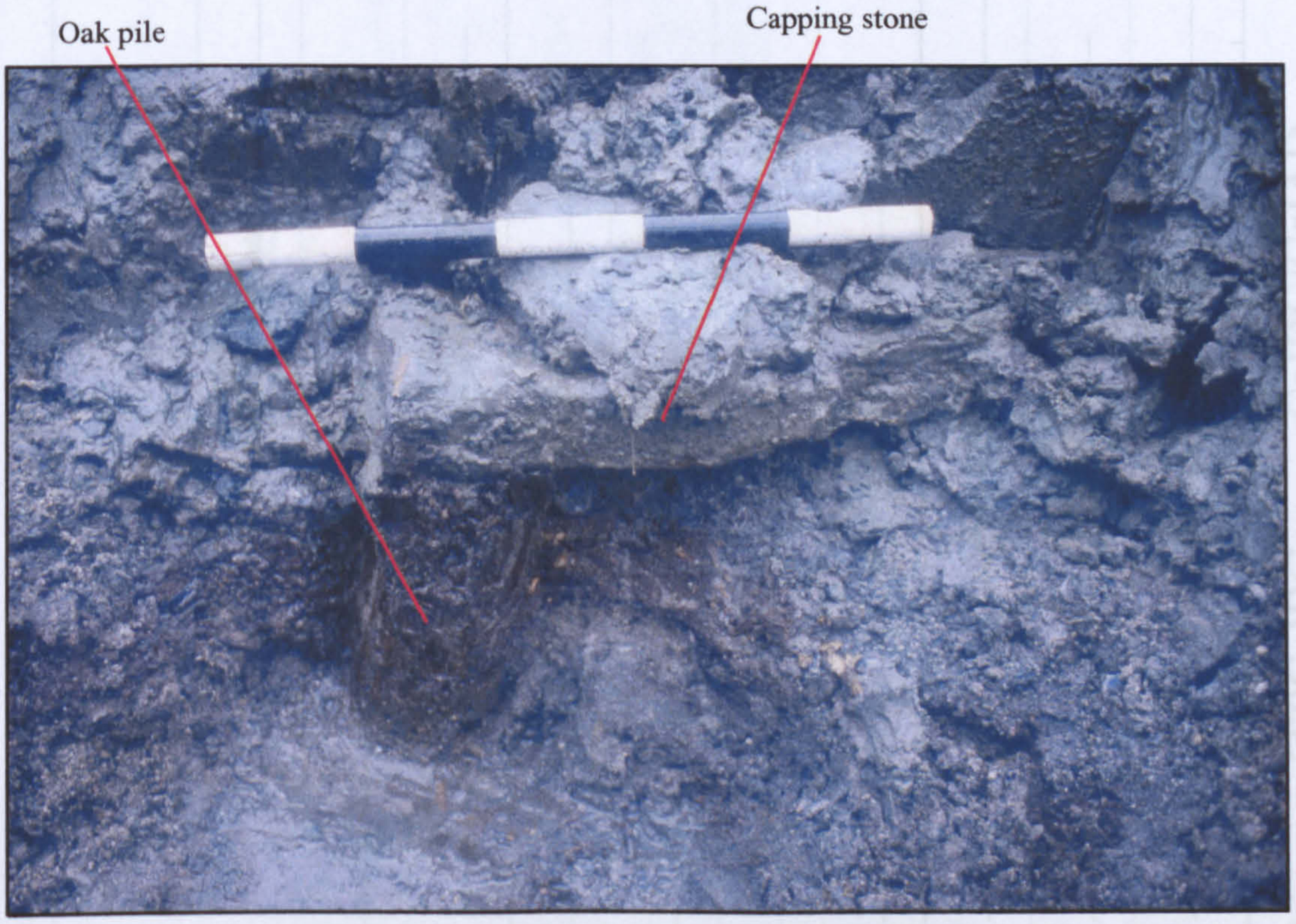


Figure 39: Purbeck 'marble' capping stone sitting on top of an oak pile, southern'jetty', Poole Harbour.

Atmospheric data from Stuiver et al. (1998); OxCal v3.9 Bronk Ramsey (2003); cub r:4 sd:12 prob usp[chron]

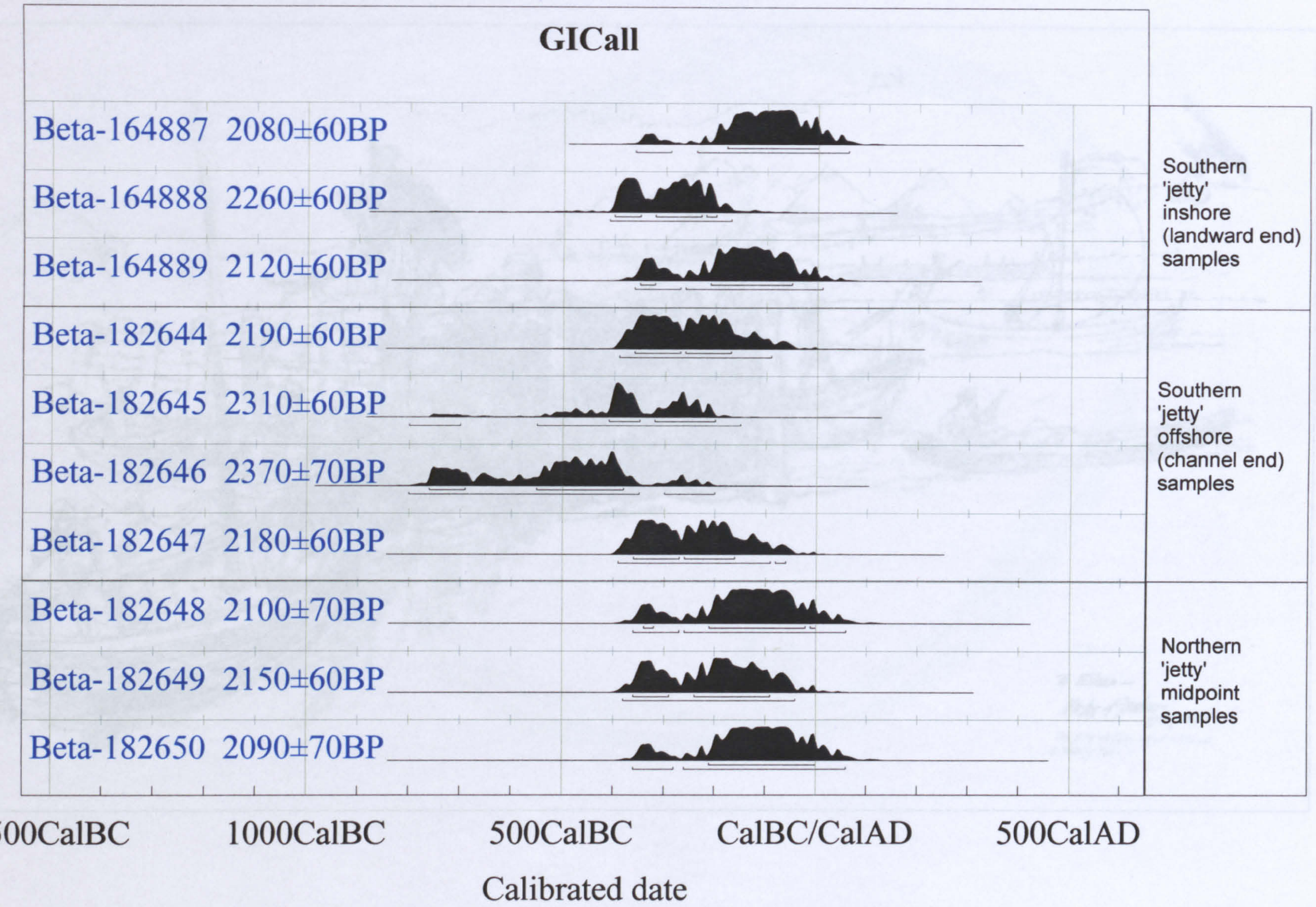


Figure 40: Radiocarbon determinations and calibrated dates from samples taken from oak piles in the two 'jetties' in South Deep, Poole Harbour.

Figure 41: An artist's impression of the southern 'jetty' in use during the Iron Age. (Drawing by Victor Ambruse).

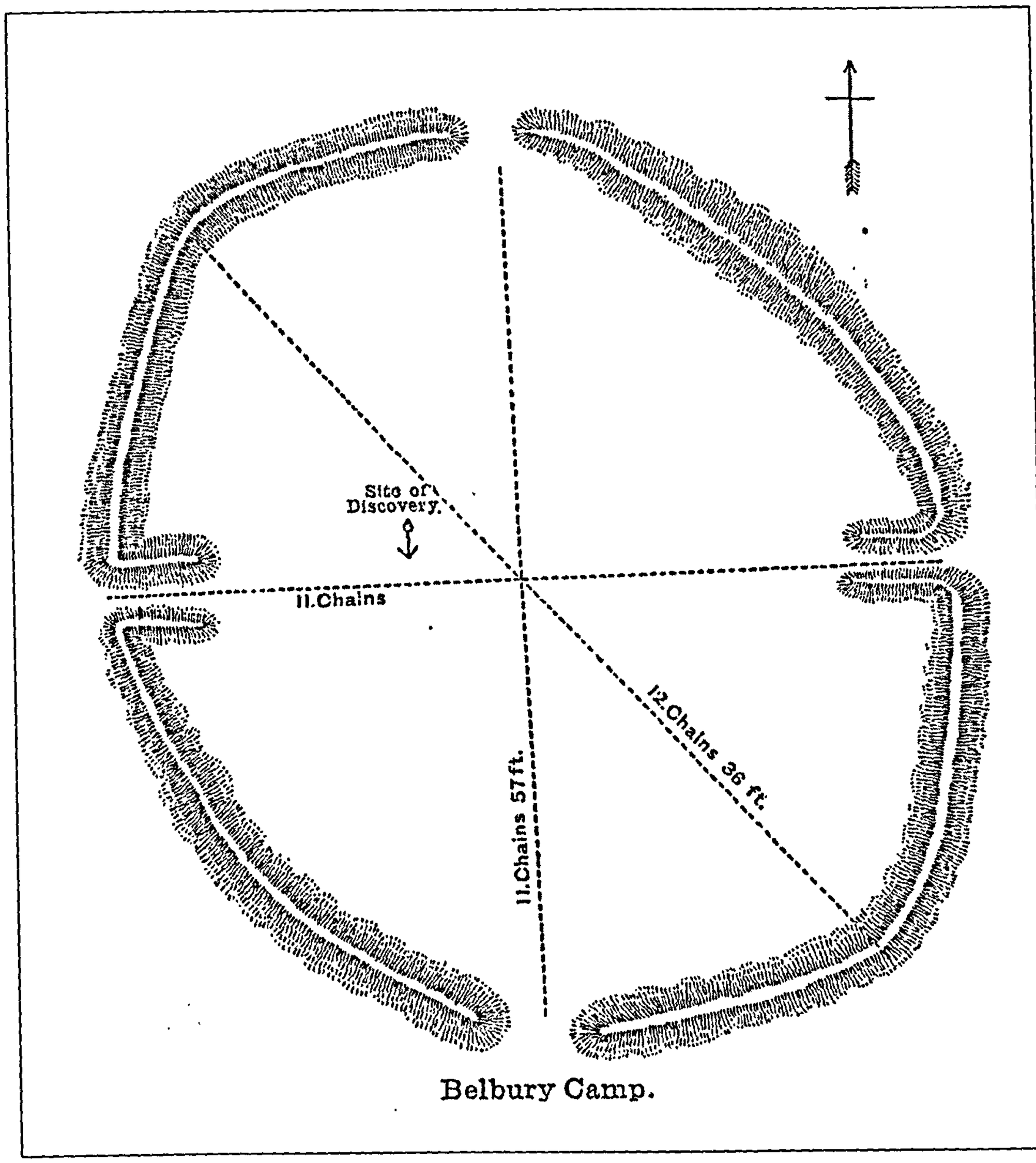


Figure 42: Cunnington's plan of Bulbury hillfort, north of Poole Harbour (Cunnington 1884, 116).

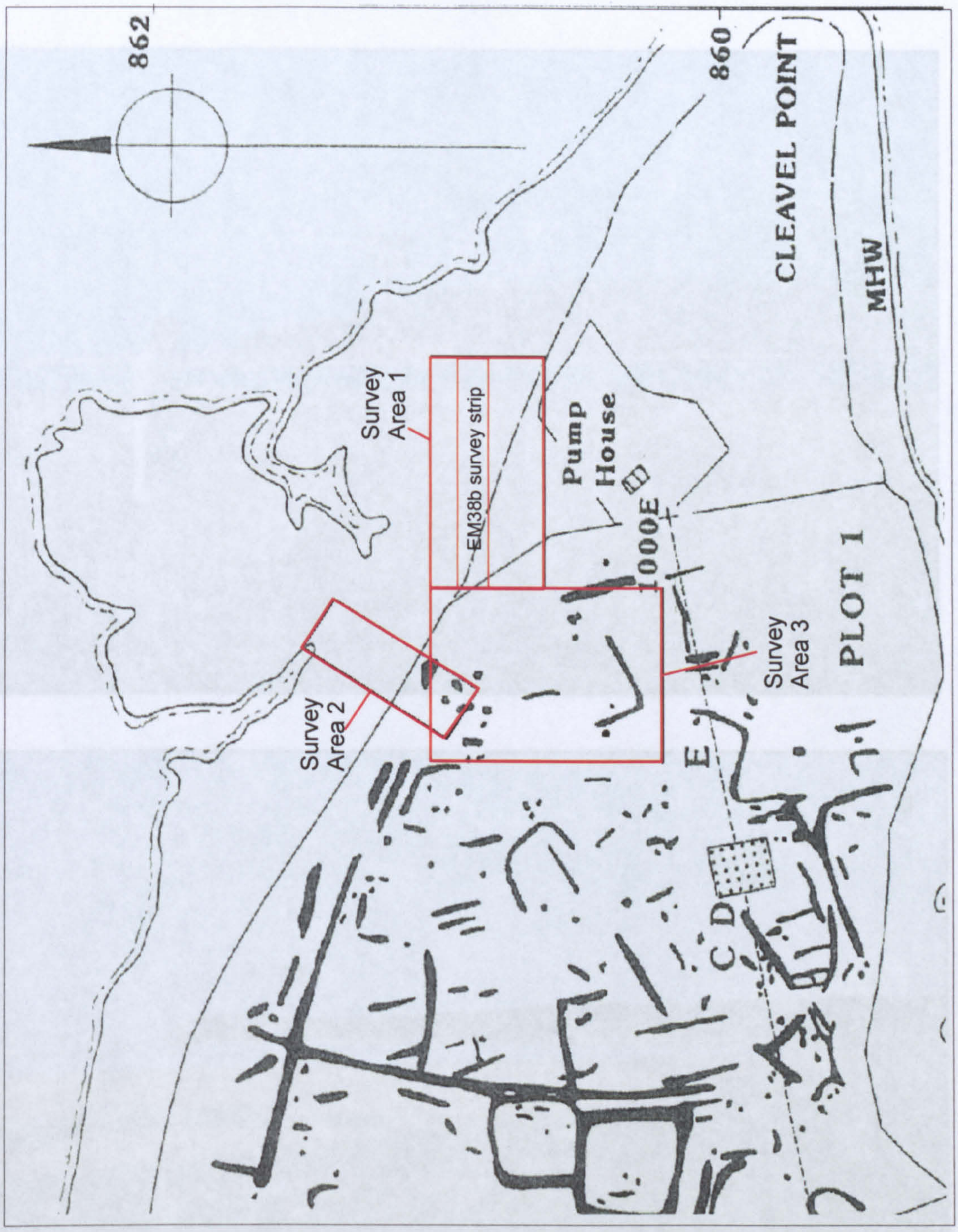
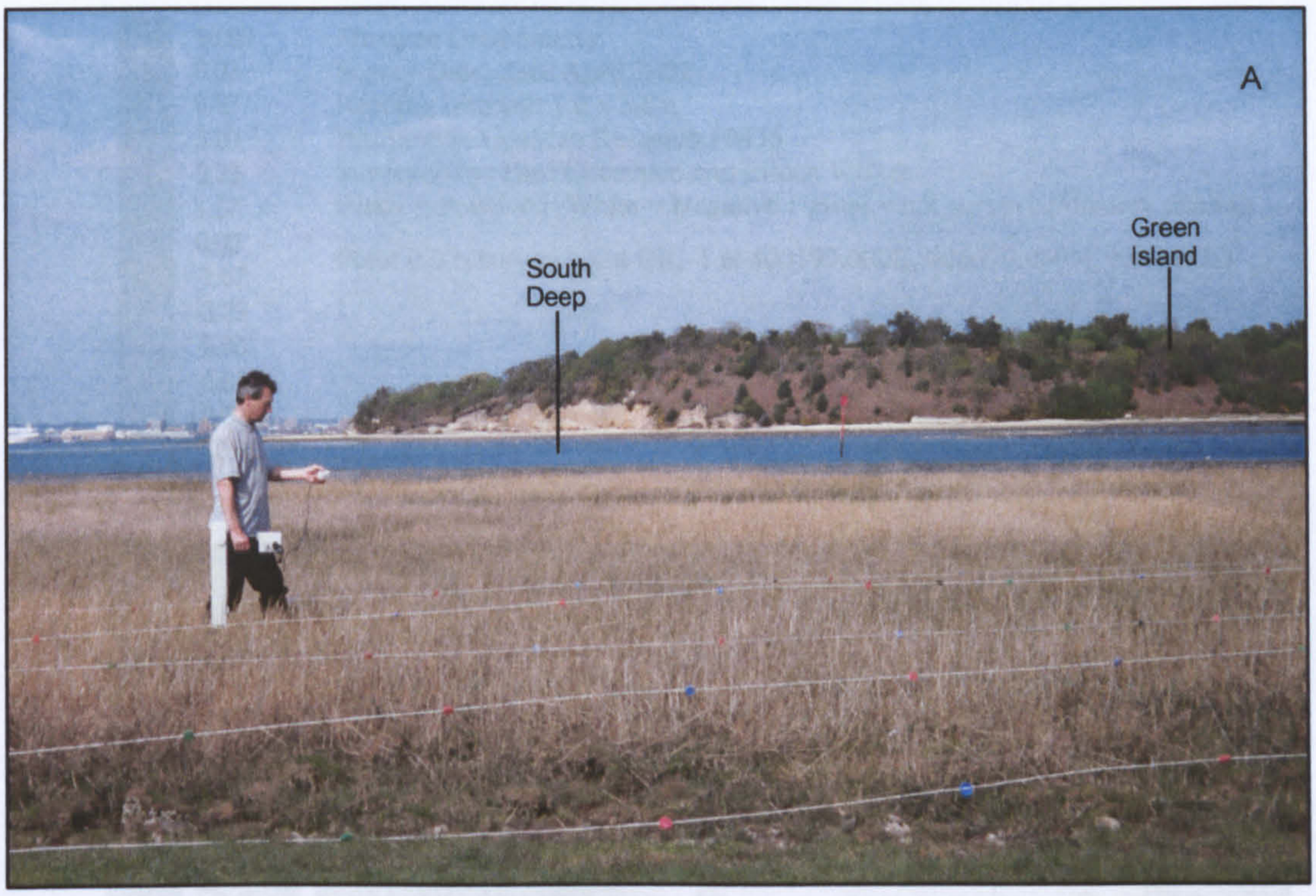


Figure 43: Positions of geophysical survey areas at Ower Peninsula, Poole Harbour. (Base plot from Cox and Hearne 1991, Figure 31).



A: Survey with FM36 in Area 1.
B: View from Area 3 into Area 1. Note soil erosion.

Figure 44: Geophysical survey at Ower Peninsula, Poole Harbour.

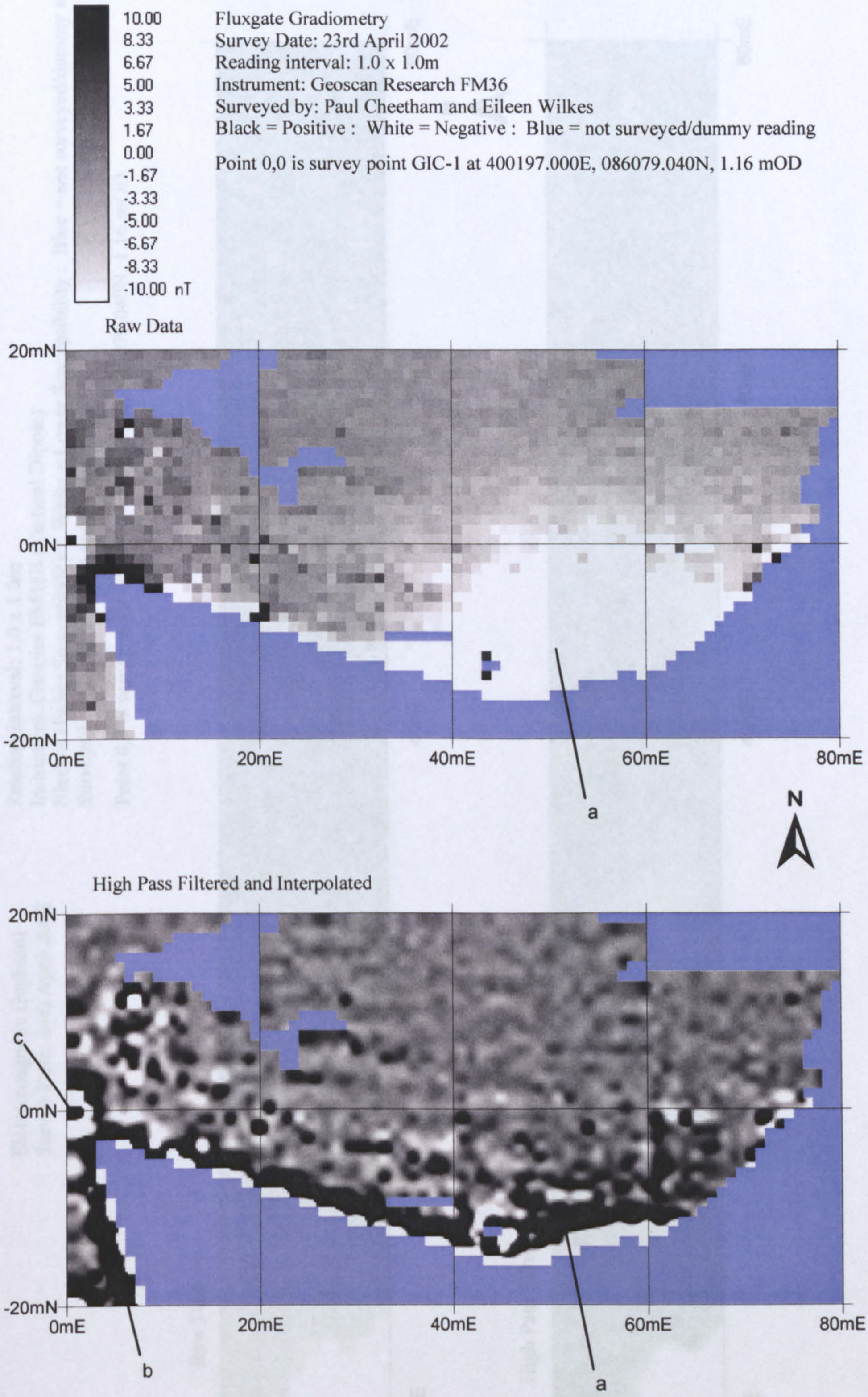


Figure 45: Ower Area 1: Fluxgate gradiometer raw and processed plots.

Electromagnetic (Inphase)
Survey Date: 24th April 2002

Reading interval: 1.0 x 1.0m
Instrument: Geonics EM38B (Vertical Dipole)
Black = Higher Susceptibility : White = Lower Susceptibility : Blue = not surveyed/dummy reading
Surveyed by: Paul Cheetham and Eileen Wilkes

Point 0,0 is survey point GIC-1 at 400197.000E, 086079.040N, 1.16 mOD

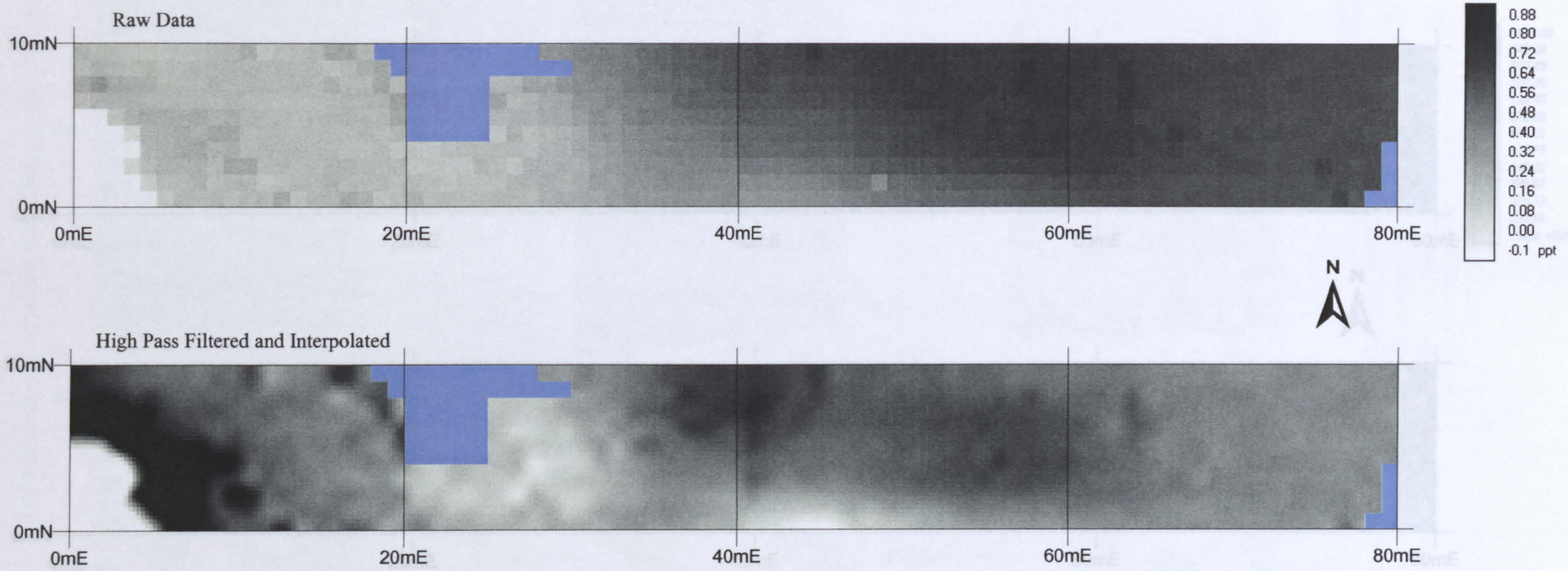


Figure 46: Ower Area 1: Electromagnetic (inphase) raw and processed plots.

Electromagnetic (Quadrature)
Survey Date: 24th April 2002

Reading interval: 1.0 x 1.0m
Instrument: Geonics EM38B (Vertical Dipole)
Black = Higher Conductivity : White = Lower Conductivity: Blue = not surveyed/dummy reading
Surveyed by: Paul Cheetham and Eileen Wilkes

Point 0,0 is survey point GIC-1 at 400197.000E, 086079.040N, 1.16 mOD

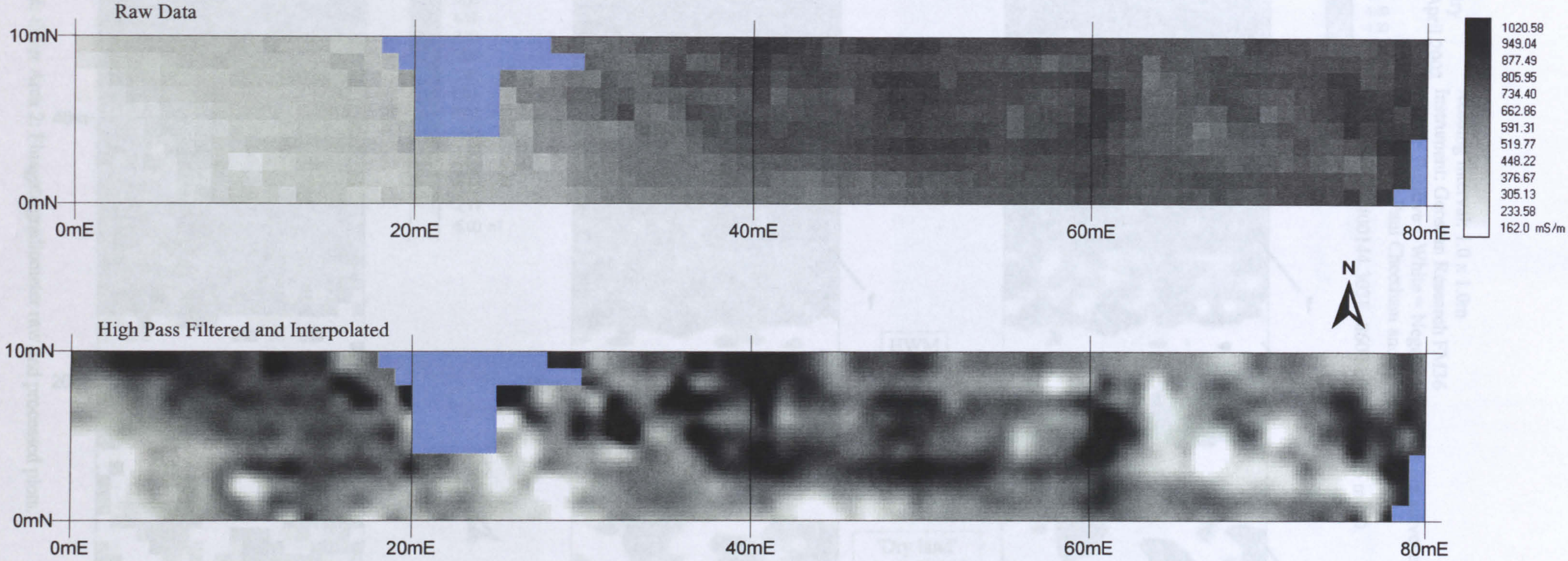


Figure 47: Ower Area 1: Electromagnetic (quadrature) raw and processed plots.

Fluxgate Gradiometry
Survey Date: 25th April 2002

Reading interval: 1.0 x 1.0m
Instrument: Geoscan Research FM36
Black = Positive : White = Negative : Blue = not surveyed/dummy reading
Surveyed by: Paul Cheetham and Eileen Wilkes

Point 0,0 is at 400144.303E, 86094.043N, 1.815 mOD.

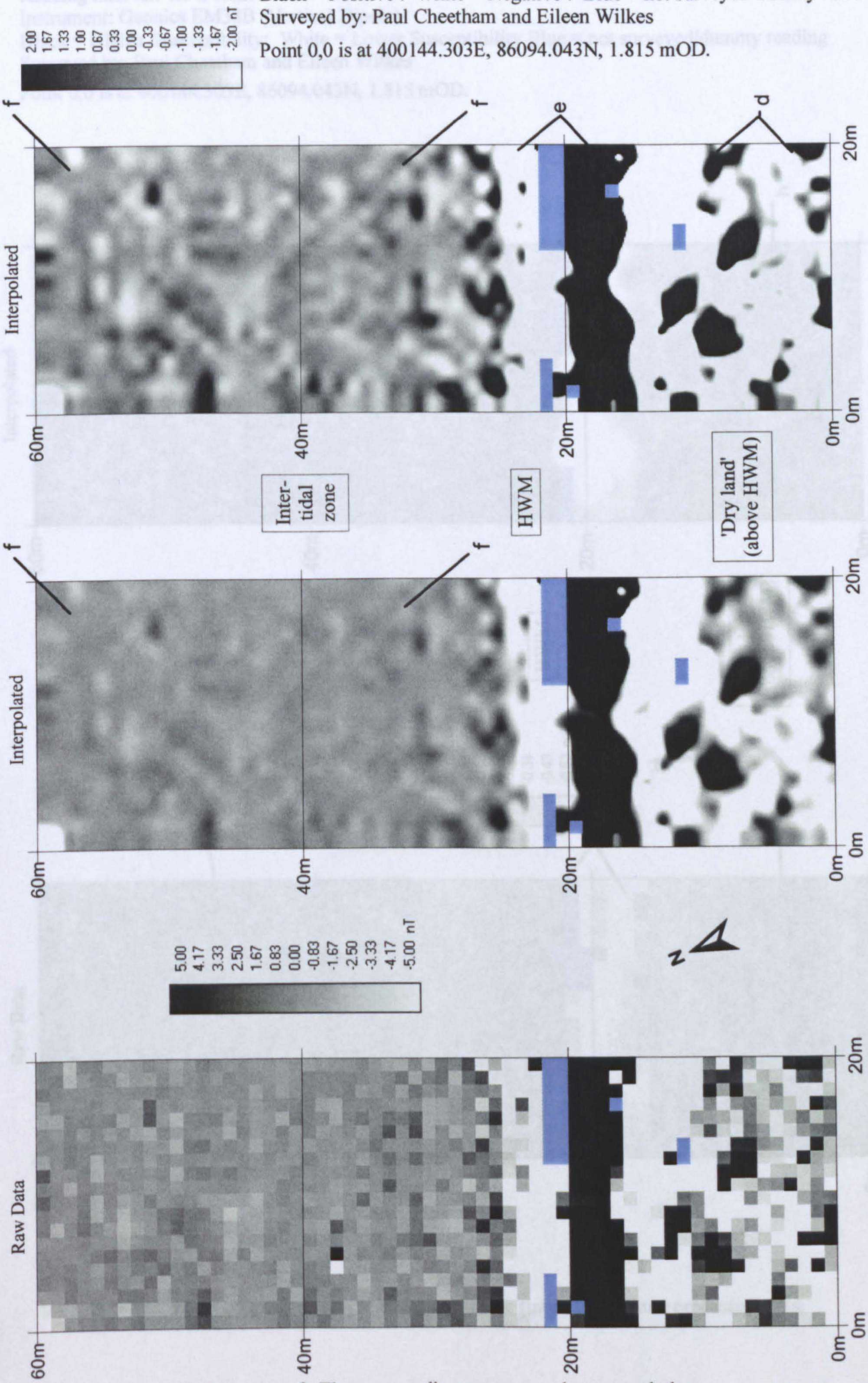


Figure 48: Ower Area 2: Fluxgate gradiometer raw and processed plots.

Electromagnetic (Inphase)
Survey Date: 25th April 2002

Reading interval: 1.0 x 1.0m
Instrument: Geonics EM38B (Vertical Dipole)
Black = Higher Susceptibility: White = Lower Susceptibility Blue = not surveyed/dummy reading
Surveyed by: Paul Cheetham and Eileen Wilkes

Point 0,0 is at 400144.303E, 86094.043N, 1.815 mOD.

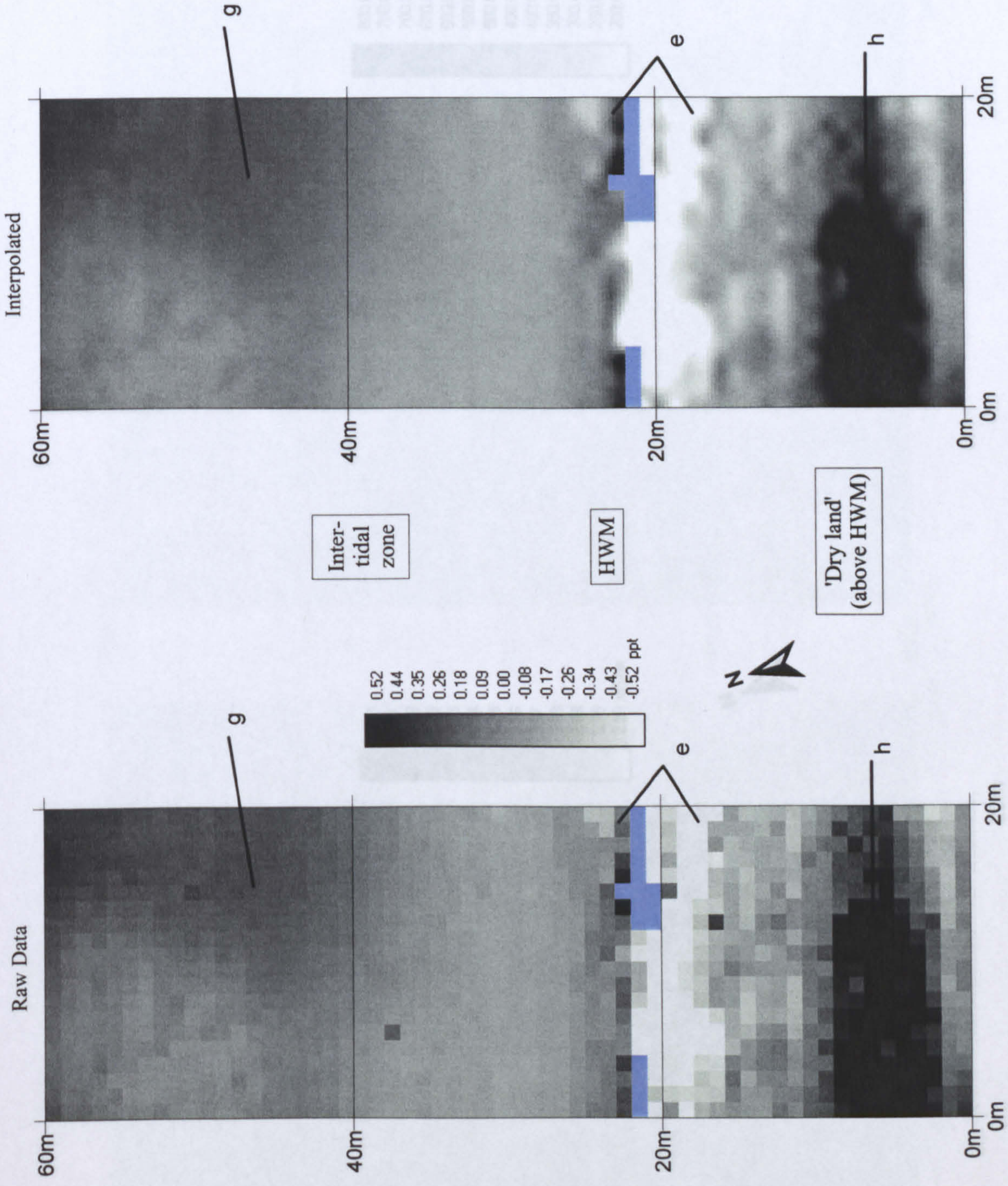


Figure 49: Ower Area 2: Electromagnetic (inphase) raw and processed plots.

Electromagnetic (Quadrature)
Survey Date: 25th April 2002

Reading interval: 1.0 x 1.0m
Instrument: Geonics EM38B (Vertical Dipole)
Black = Higher Conductivity : White = Lower Conductivity: Blue = not surveyed/dummy reading
Surveyed by: Paul Cheetham and Eileen Wilkes

Point 0,0 is at 400144.303E, 86094.043N, 1.815 mOD.

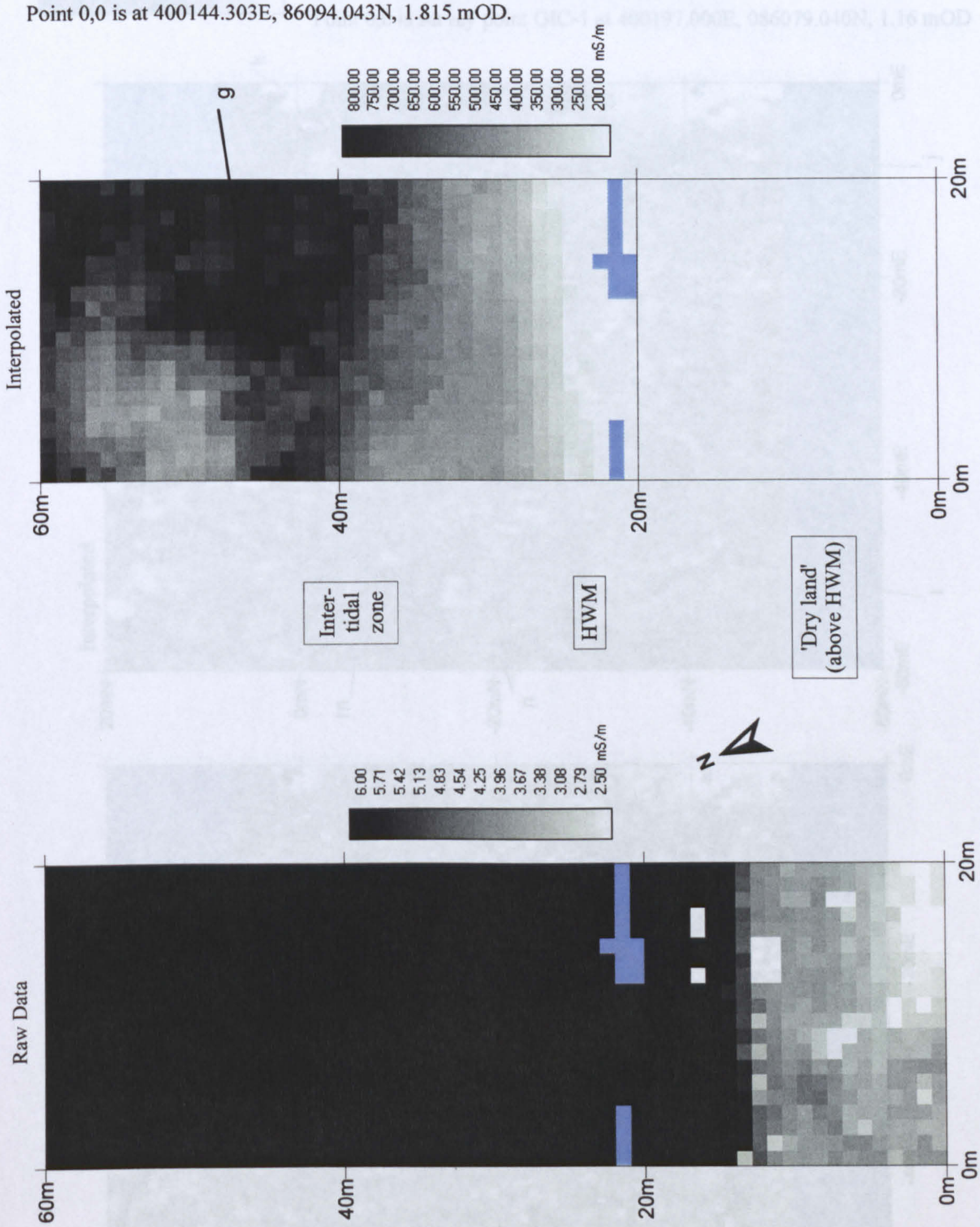
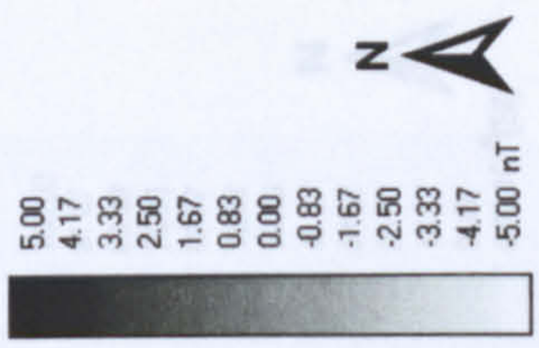


Figure 50: Ower Area 2: Electromagnetic (quadrature) raw and processed plots.



Fluxgate Gradiometry
Survey Date: 2nd October 2001
Reading interval: 0.5 along traverses and 1.0m between traverses
Instrument: Geoscan Research FM36
Black = Positive : White = Negative : Blue = not surveyed/dummy reading
Surveyed by: Paul Cheetham and Roger Doonan

Point 0,0 is survey point GIC-1 at 400197.000E, 086079.040N, 1.16 mOD

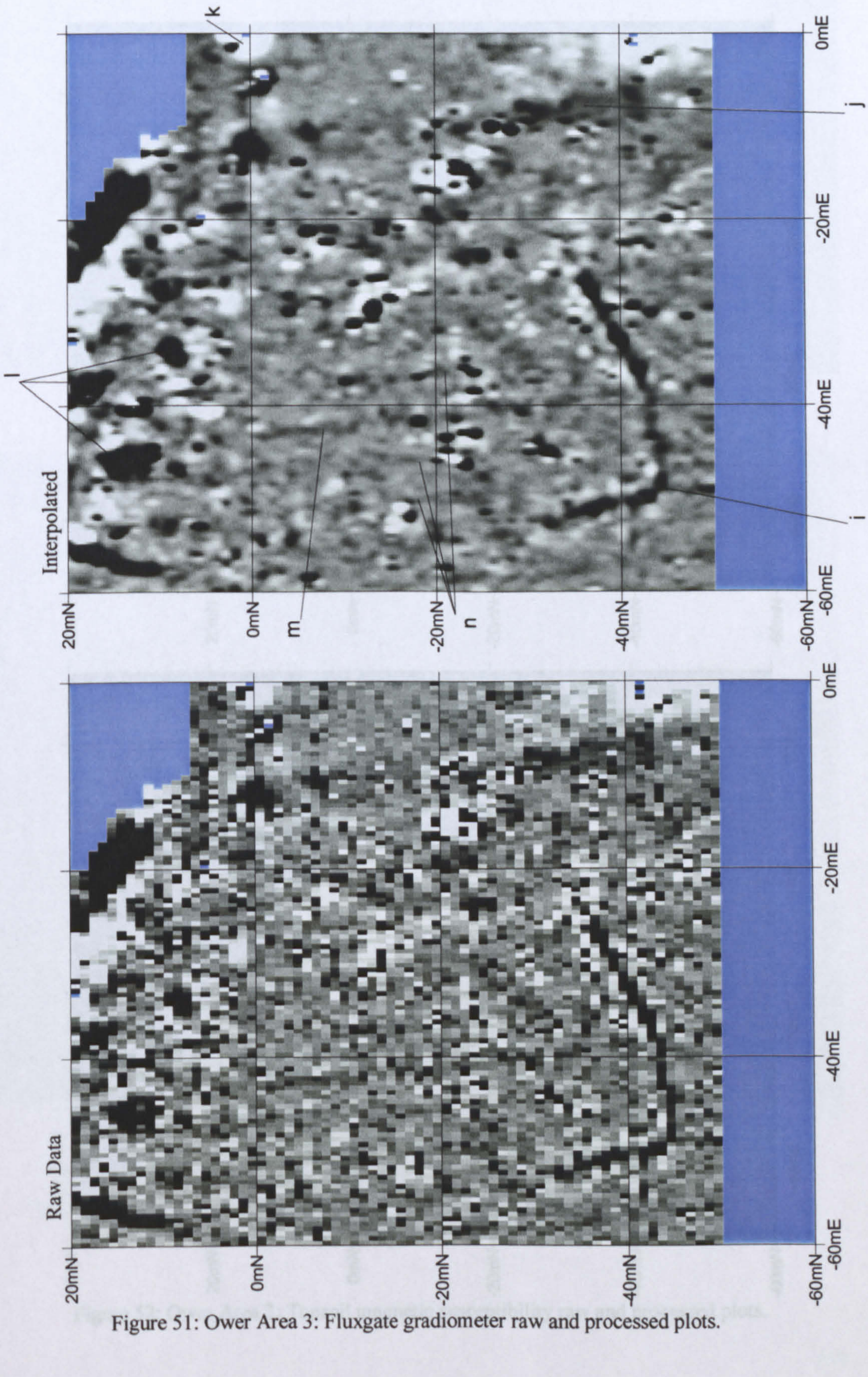


Figure 51: Ower Area 3: Fluxgate gradiometer raw and processed plots.

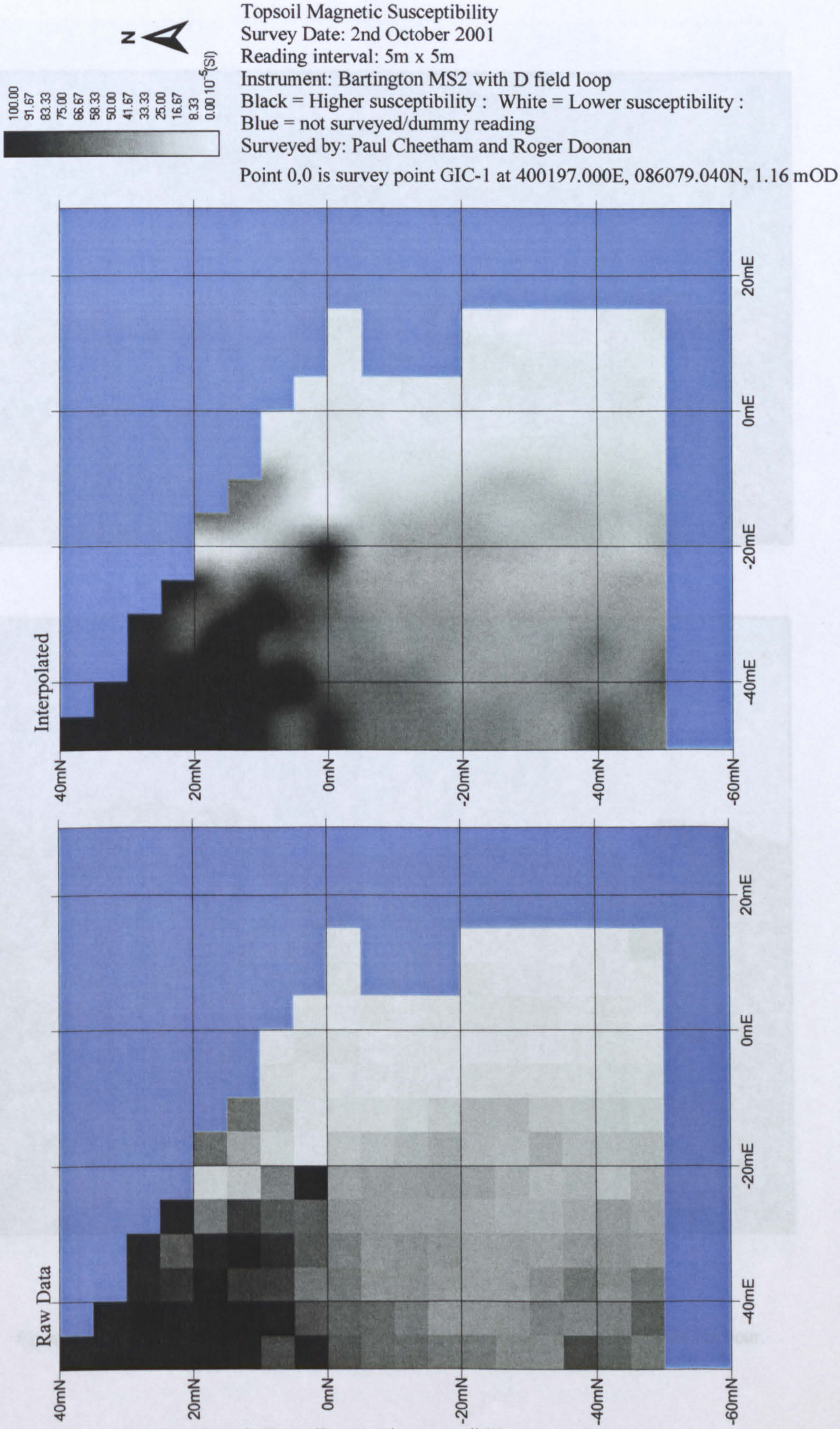


Figure 52: Ower Area 3: Topsoil magnetic susceptibility raw and processed plots.

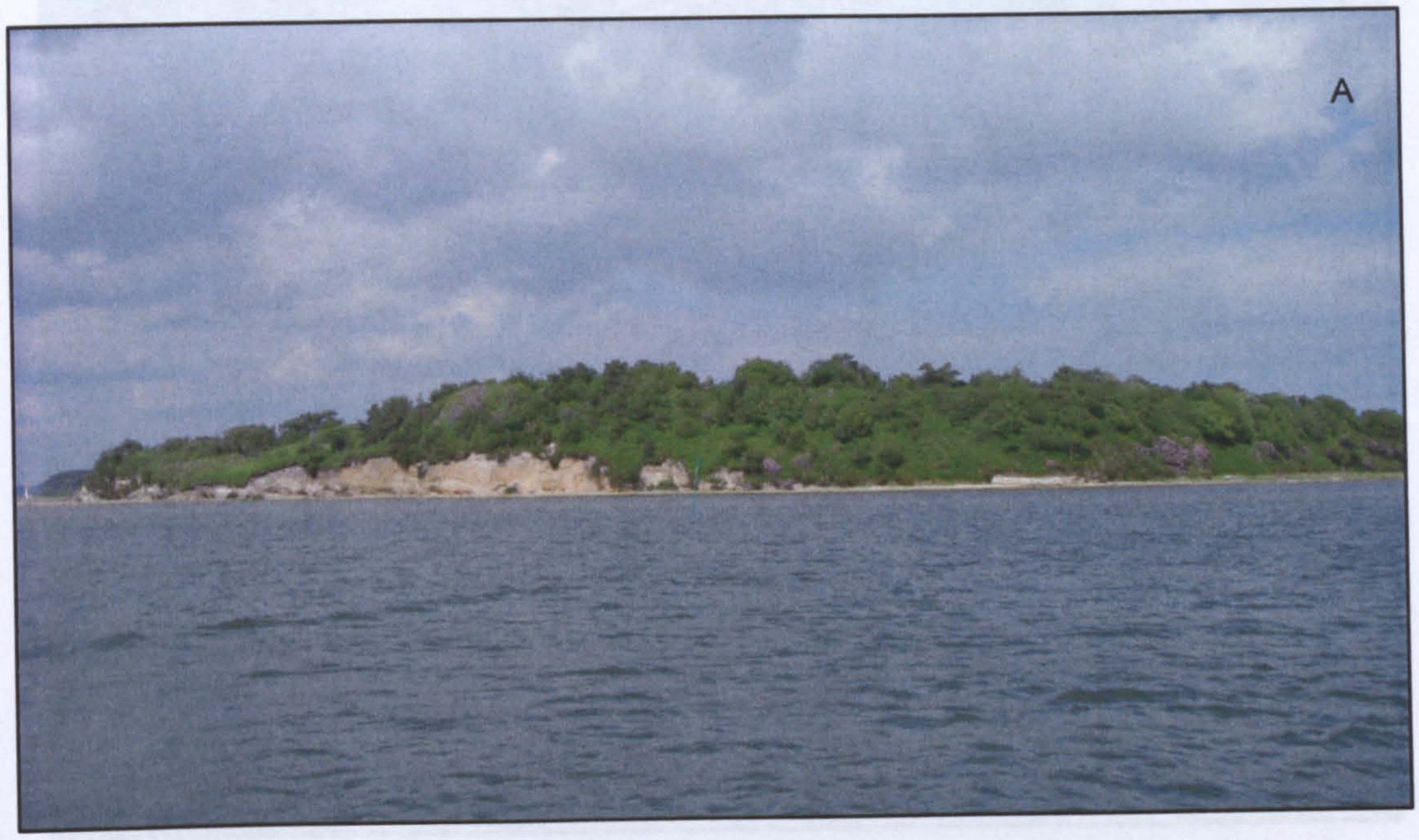


Figure 53: The eroding sand cliffs of Green Island (A) and Furzey Island (B), Poole Harbour.

Figure 54: Excavating and recording the 'wall' in Trench 1, Green Island, 2003.
(Photo A: A Bromby)

Figure 55: Part of crucible retrieved from TP13, Green Island, 2003. (Photo: S Hathaway).

Figure 56: Iron and shale pieces retrieved from TP23, Green Island, 2002. (Photo: M A'Court).

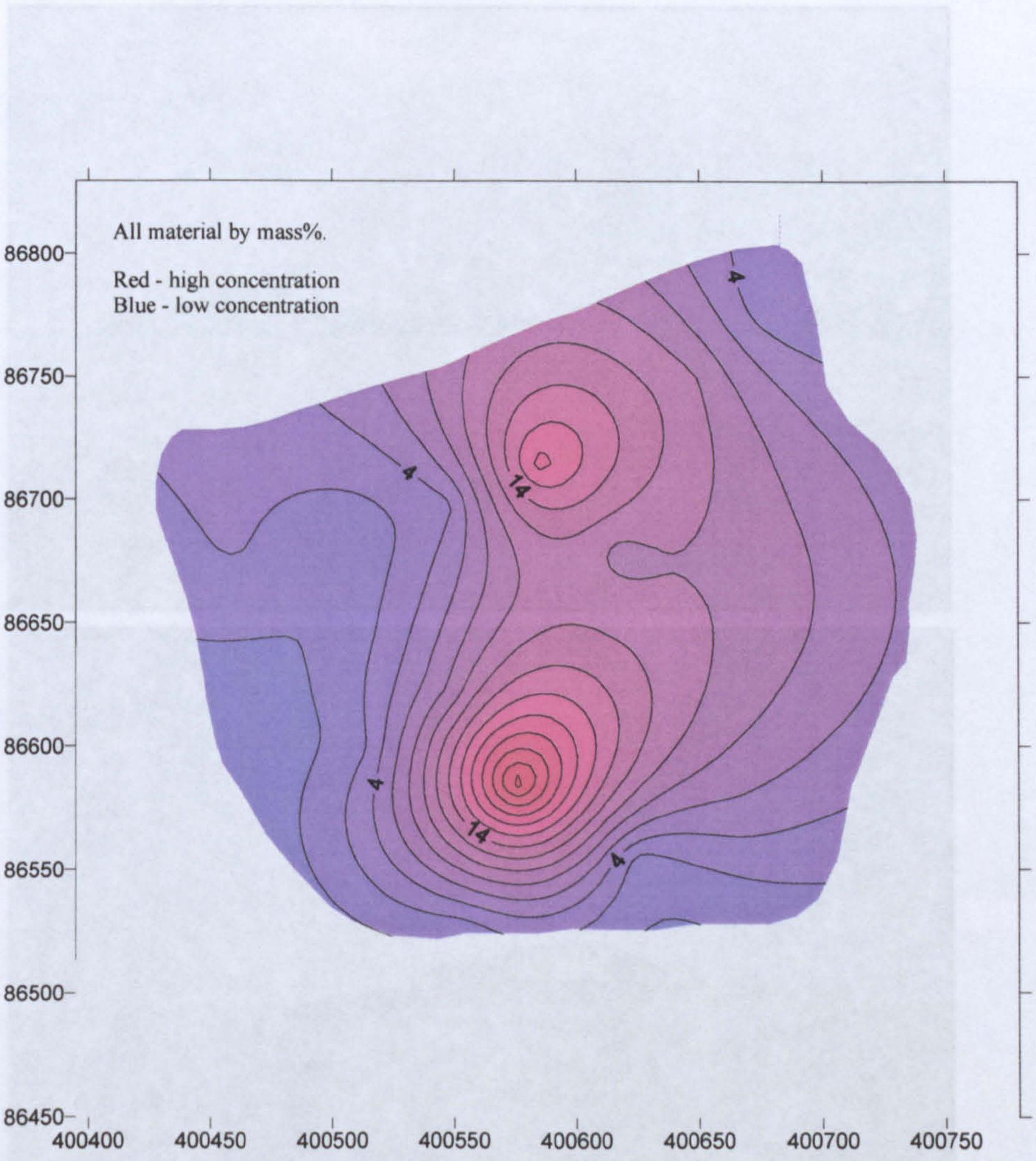
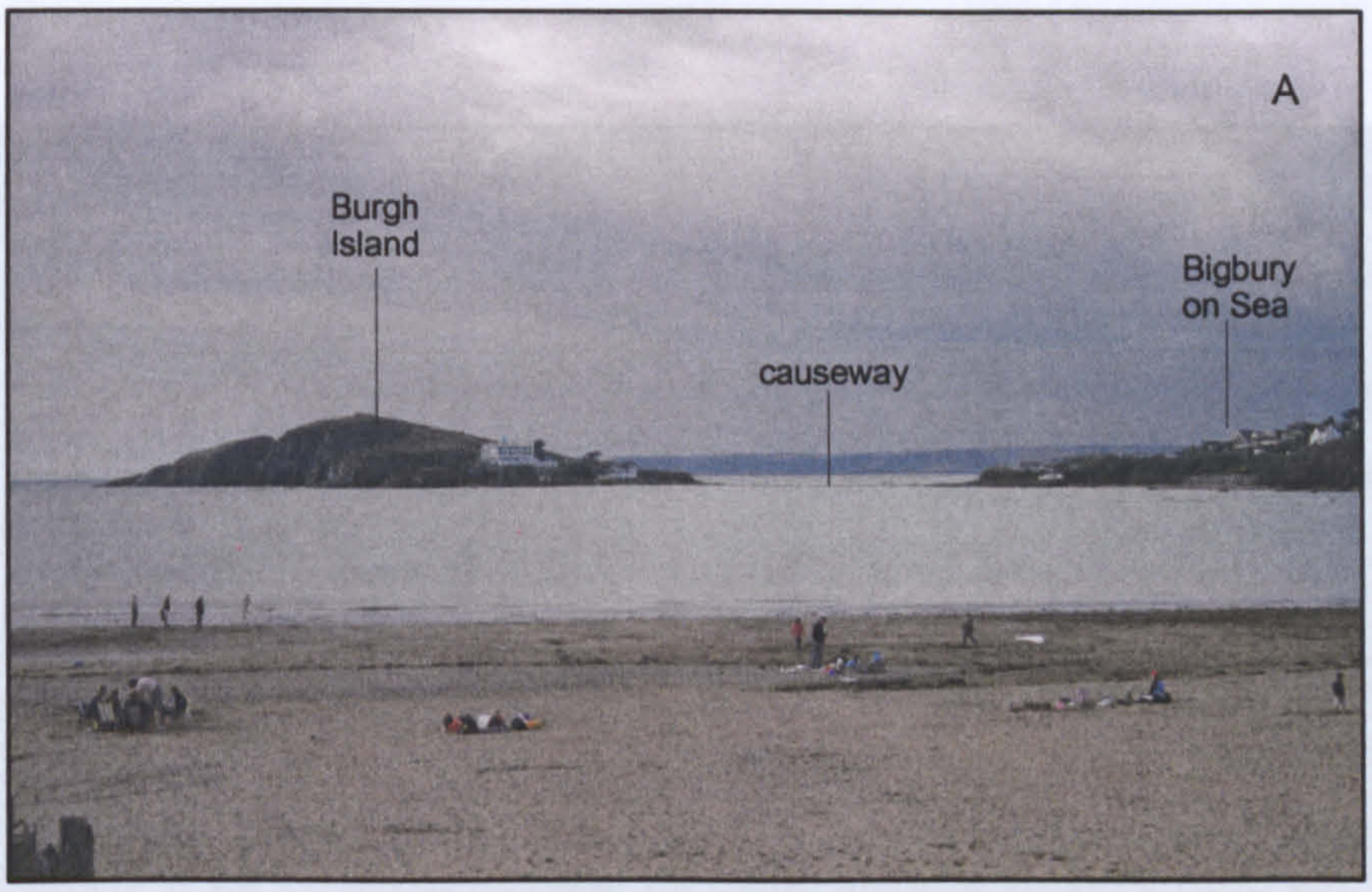
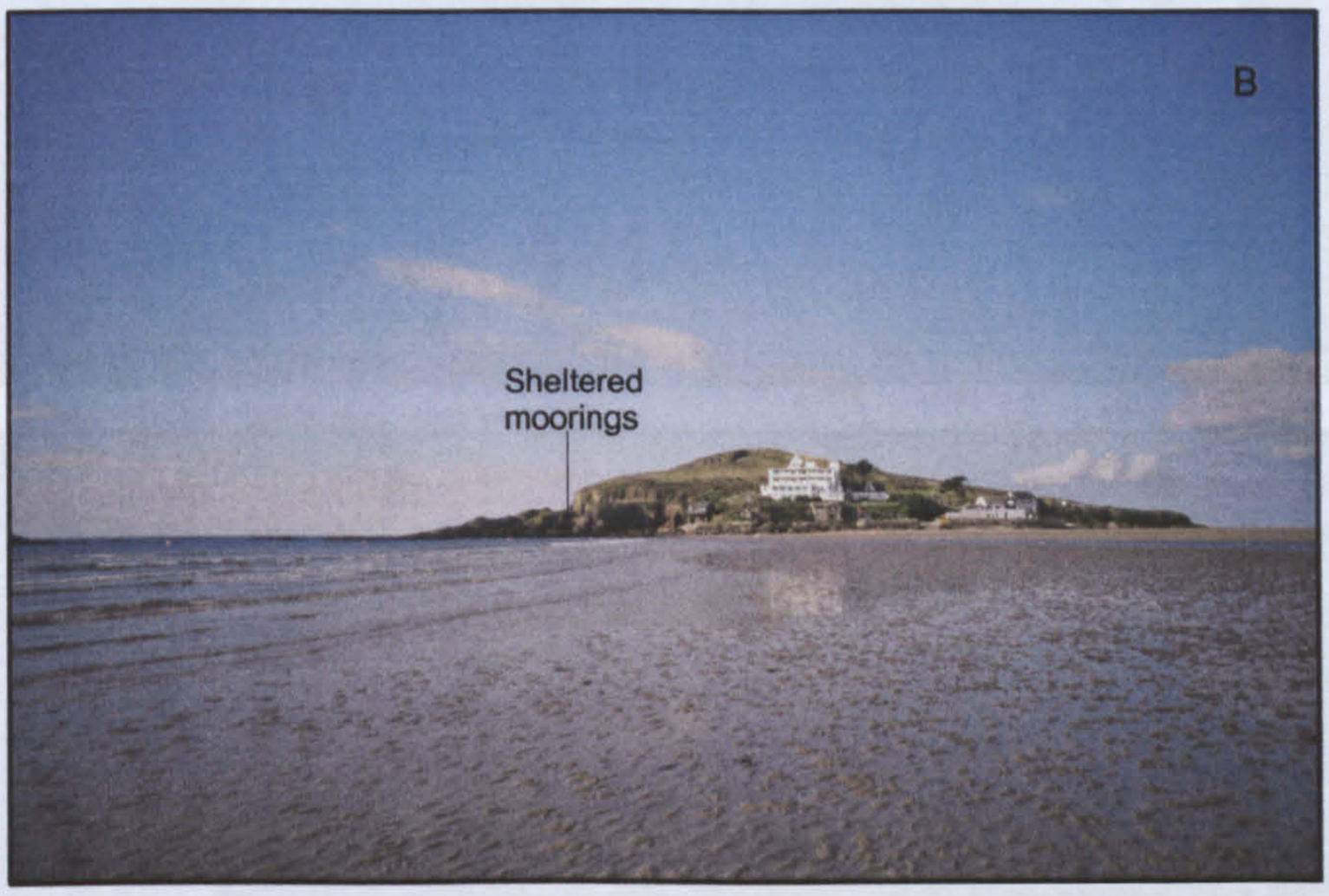
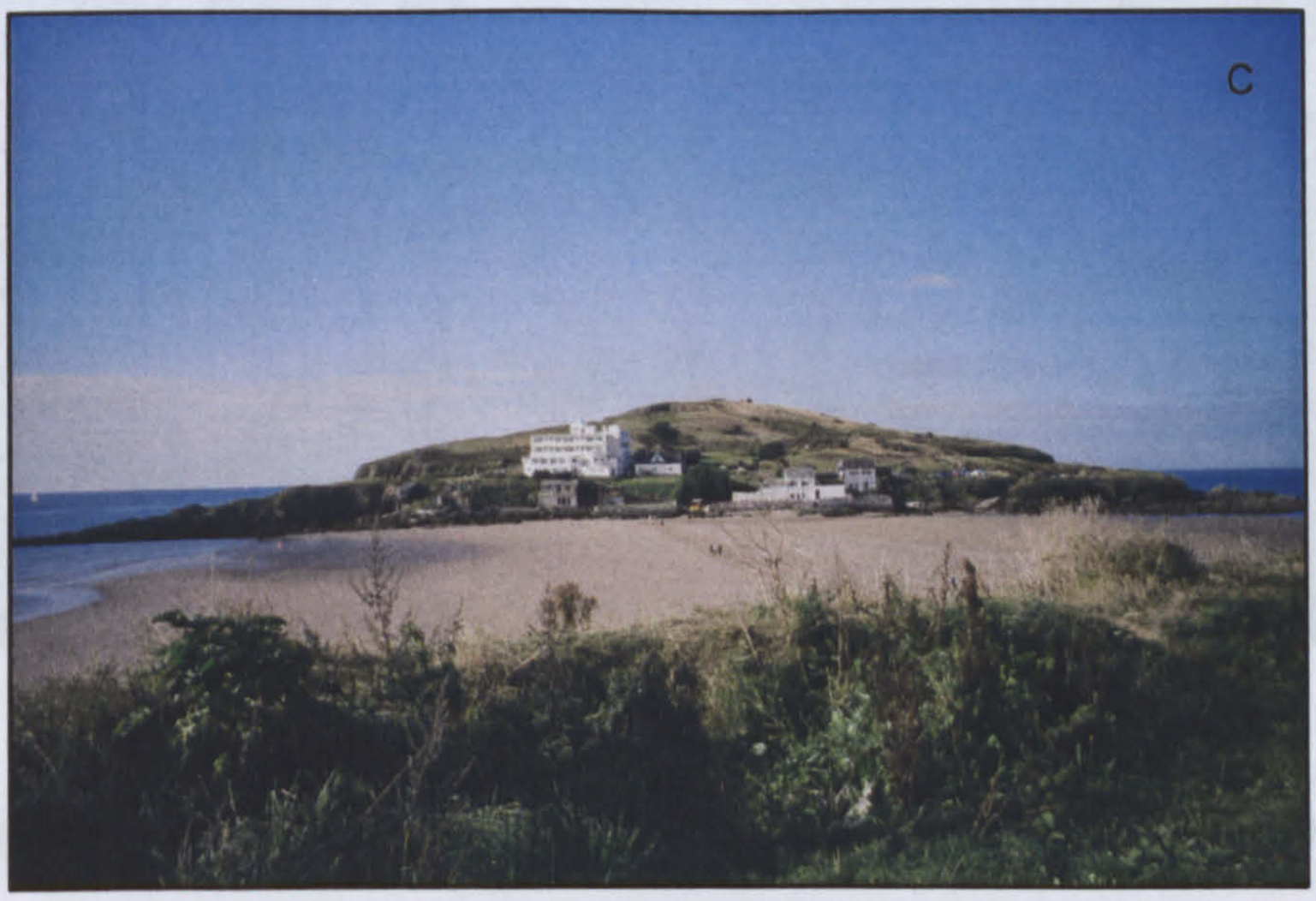


Figure 57: Density plot of Iron Age material recovered from Green Island test pit survey (2001-2003).







A: from Bantham. B and C: from Bigbury on Sea.

Figure 58: Views to Burgh Island, Bigbury Bay, showing the causeway, Octber 2002.

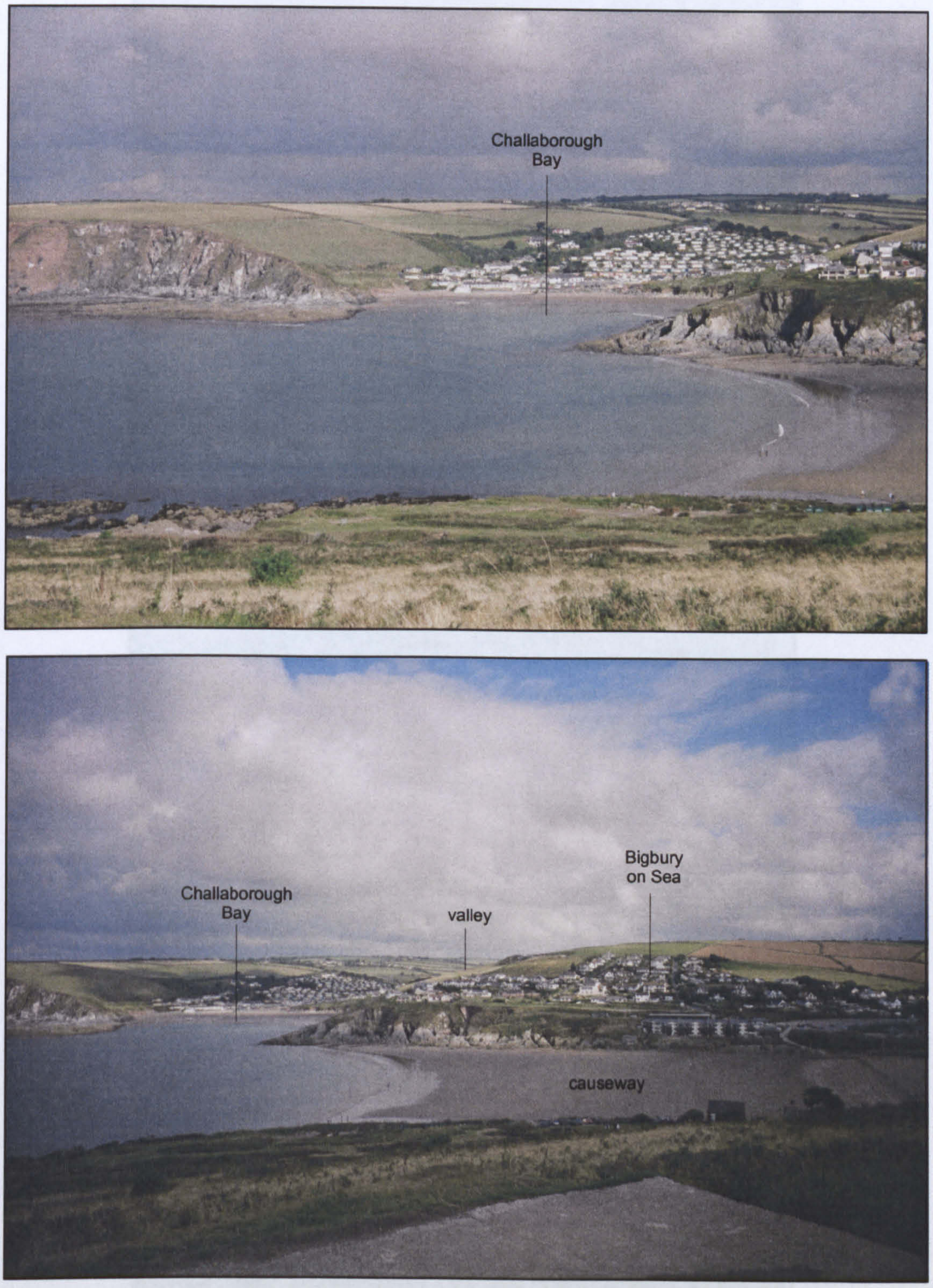
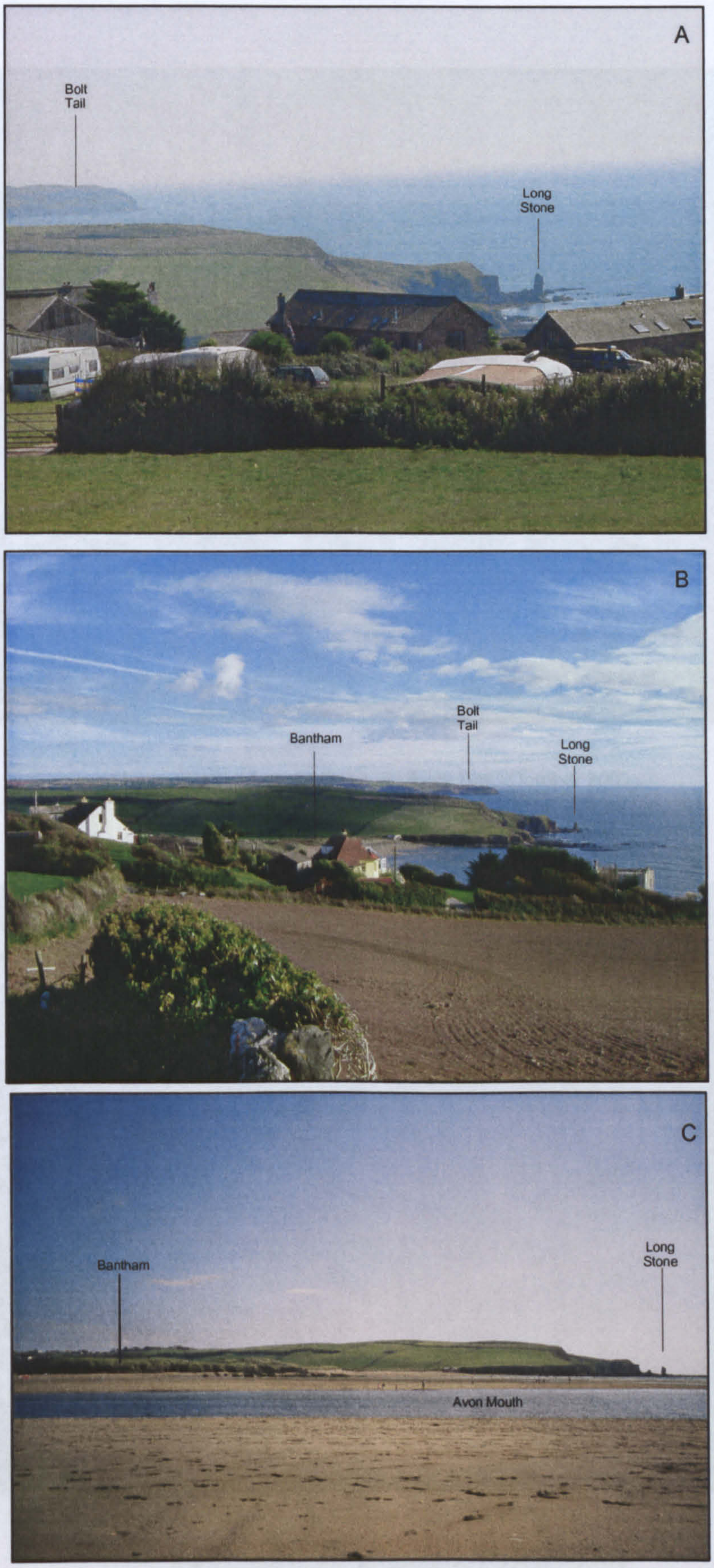


Figure 59: Views of Challaborough Bay from Burgh Island, Bigbury Bay, October 2002.



A: From Mount Folly, September 2003; B: From Mount Folly, September 2004; C: From Avon Mouth, October 2002.

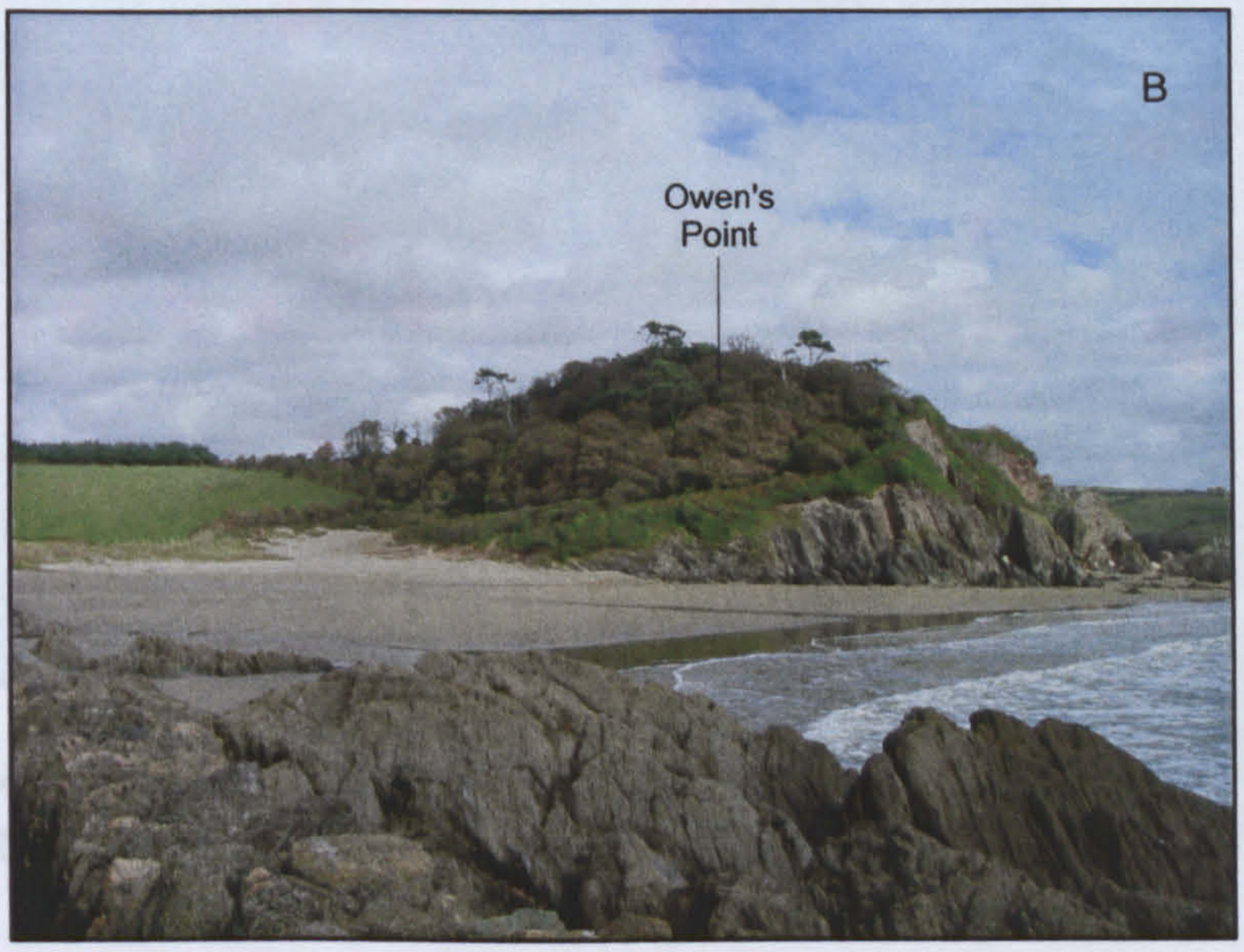
Figure 60: Views to the Long Stone, Bolt Tail and Bantham, Bigbury Bay.

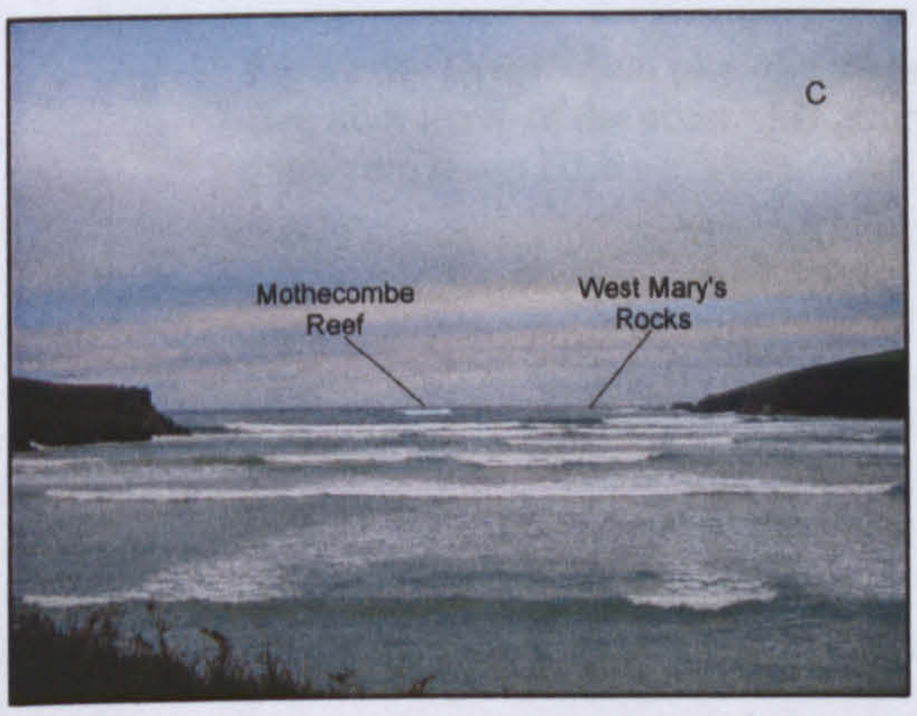
Figure 61: Thurlestone Cove, Bigbury Bay (October 2002).

Figure 62: Bolt Tail promontory fort, Bigbury Bay
(Photo: F Griffith, Devon County Council).

A: View to Bantham from Burgh Island (October 2002).
B: View to Bantham from Mount Folly (July 2003).
C: Aerial view of Bantham (F Griffith, Devon County Council).

Figure 63: Views of Bantham, Bigbury Bay.





A: View north-west across Meadowsfoot Beach from Owen's Point (October 2002)
B: View south-east across Meadowsfoot Beach to Owen's Point (September 2004)
C: View south through the mouth of the Erme Estuary into Bigbury Bay (September 2004)
D: View north-east along the Erme Estuary; note sand accumulation (October 2002)

Figure 64: Views at Mothecombe and Erme Mouth, Bigbury Bay.

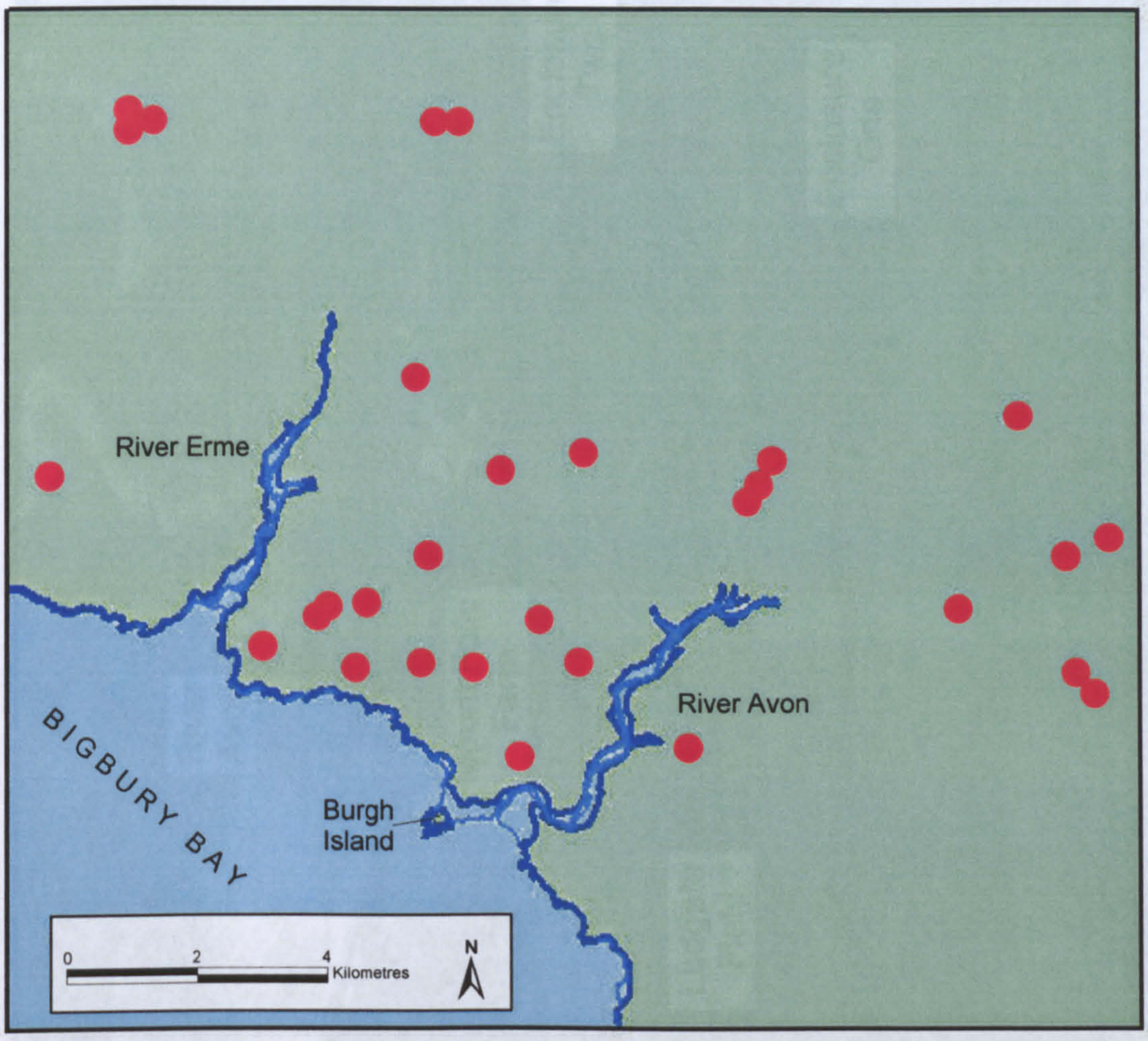


Figure 65: Distribution plot of enclosures identified by aerial reconnaissance within five kilometres of the coast of Bigbury Bay.
(Source: Devon HER)

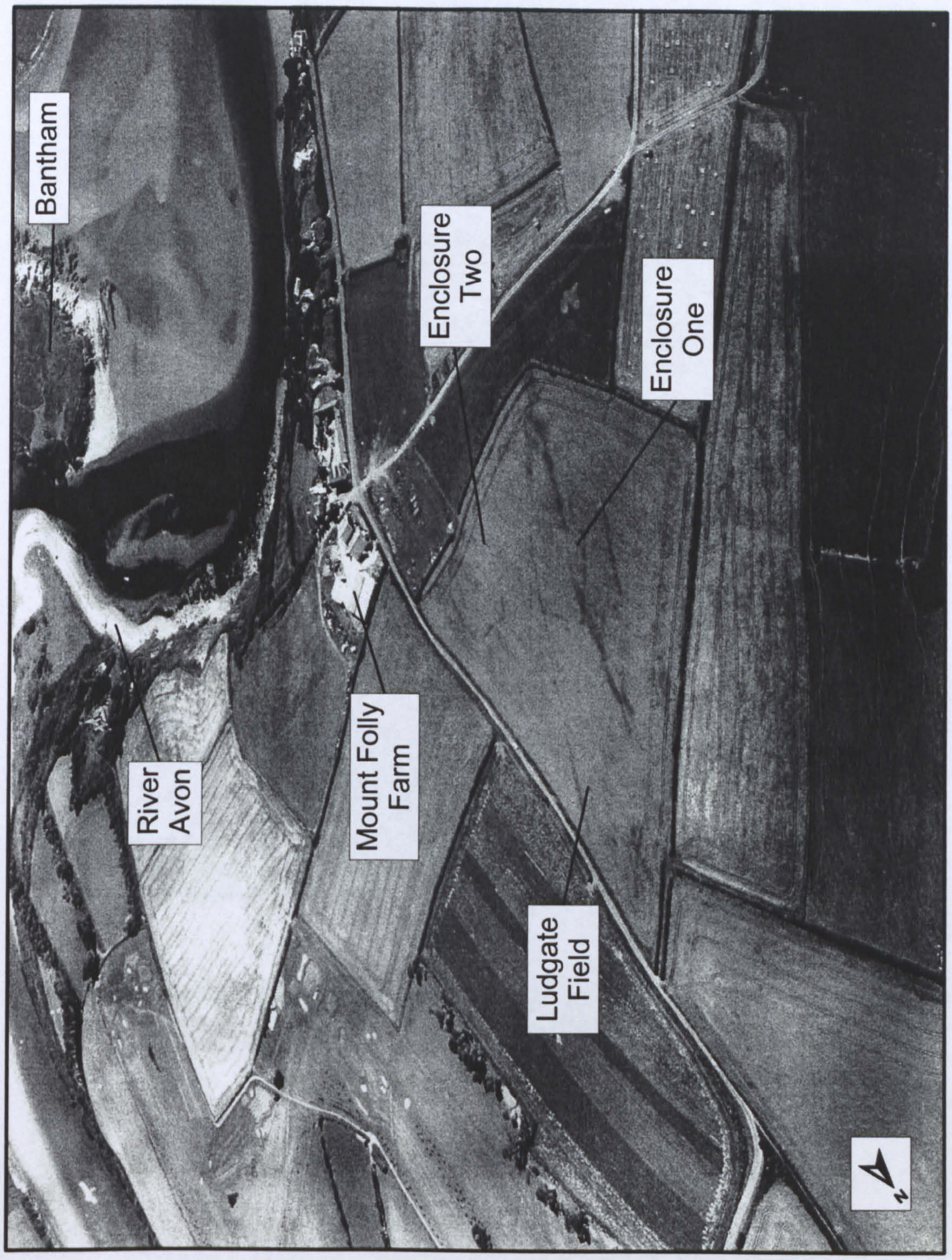


Figure 66: Aerial photograph of two crop marks in Ludgate Field, Bigbury Bay. (Photo: F Griffith, Devon County Council, July 1989).

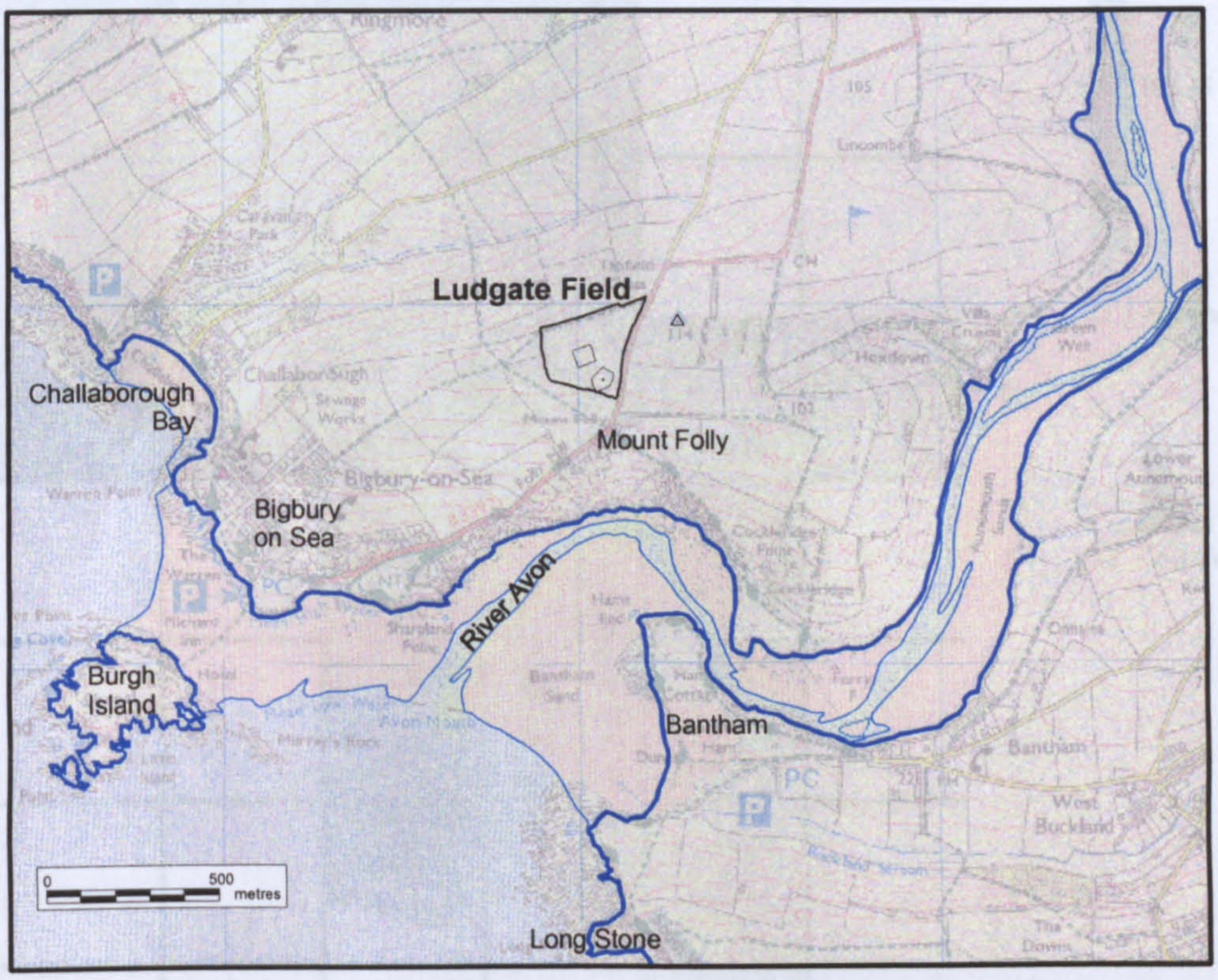


Figure 67: Location of Ludgate Field at Mount Folly, Bigbury Bay.
(Base map reproduced with kind permission of HMSO, Ordnance Survey Outdoor Leisure Map 20, 1995, 1:25000).

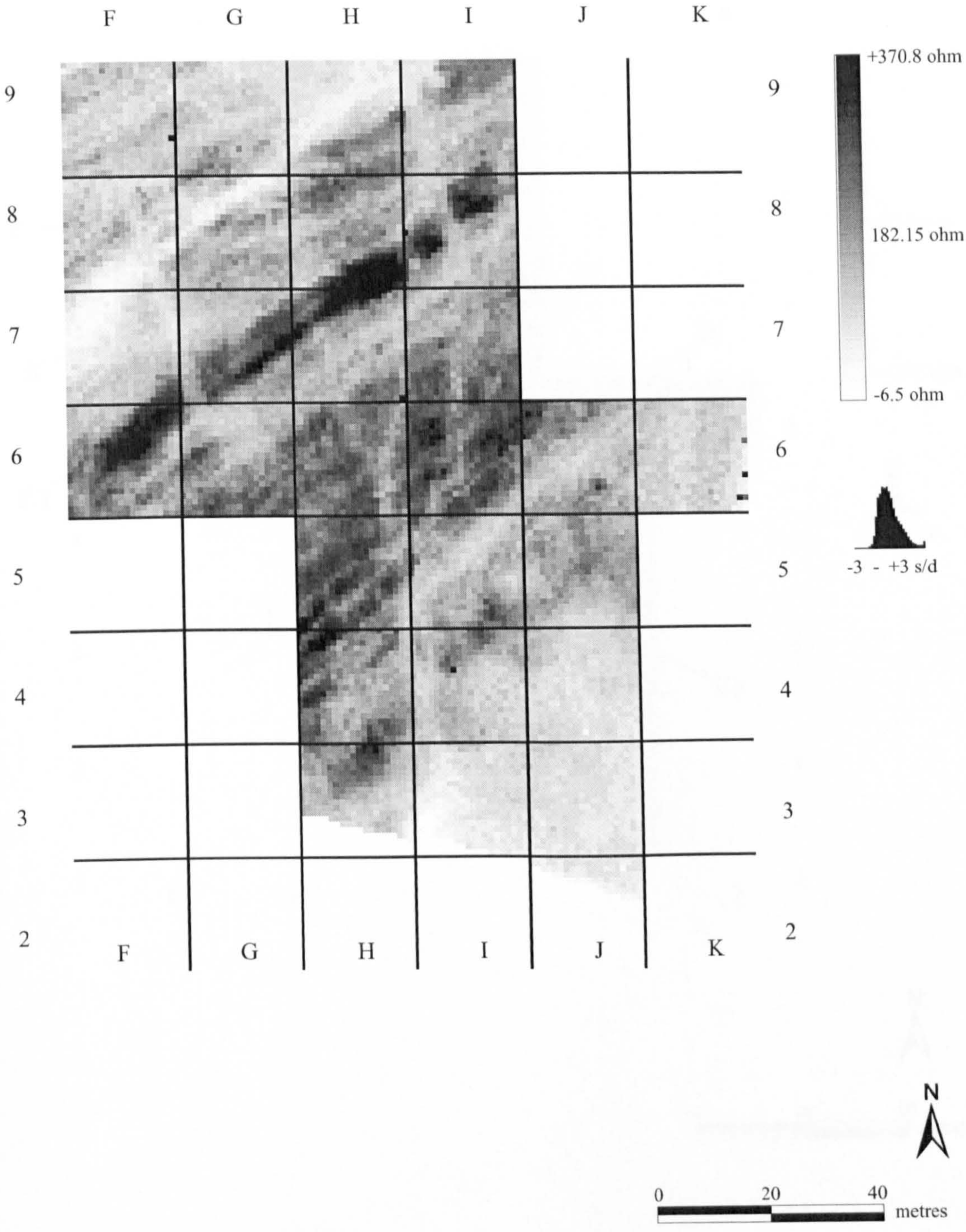


Figure 68: Unprocessed plot of RM15 resistivity survey, Ludgate Field, Mount Folly.

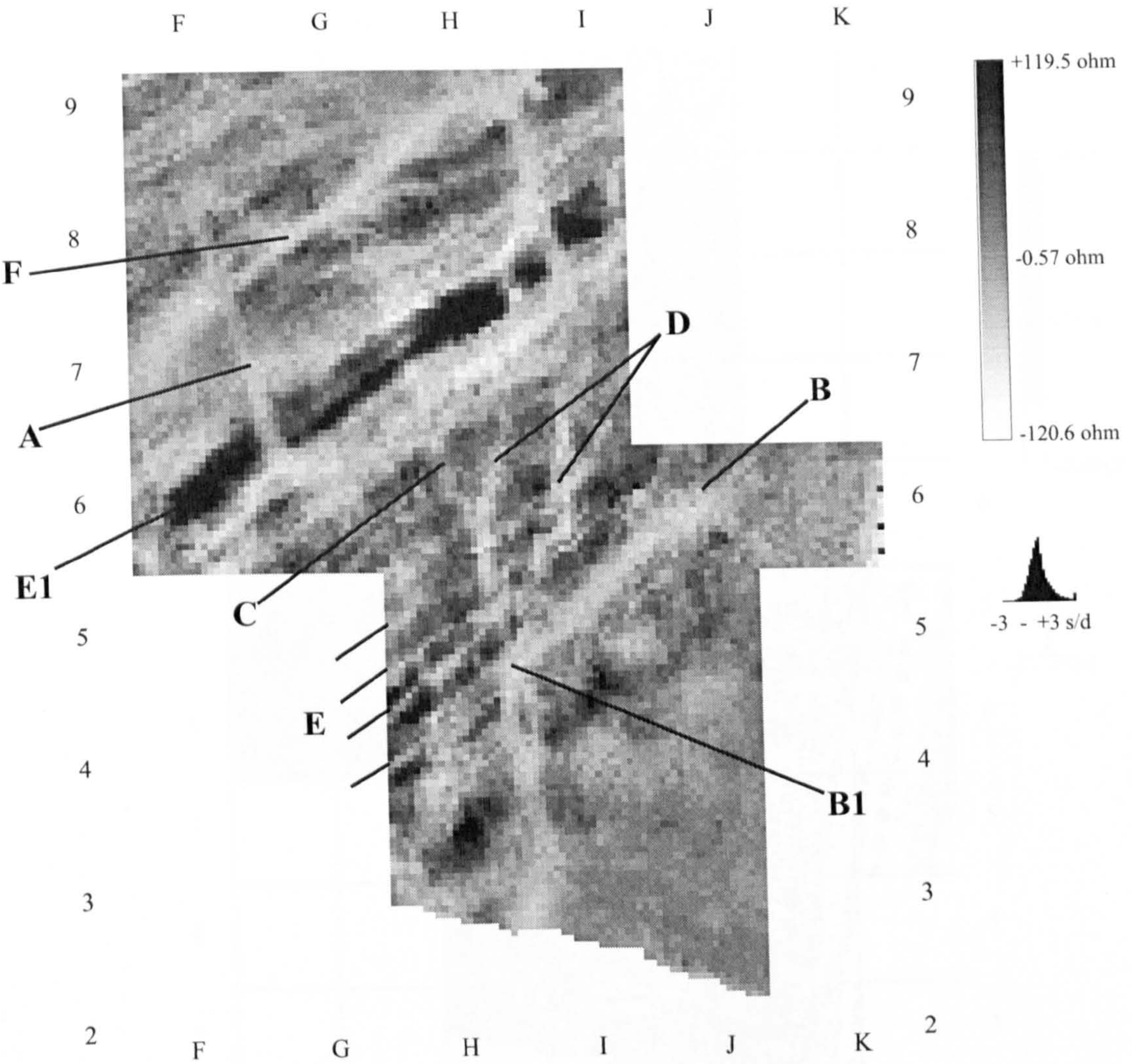


Figure 69: Annotated processed plot of RM15 resistivity survey, Ludgate Field, Mount Folly.

Figure 70: Raw plot of primary FM36 survey in Ludgate Field, Mount Folly.

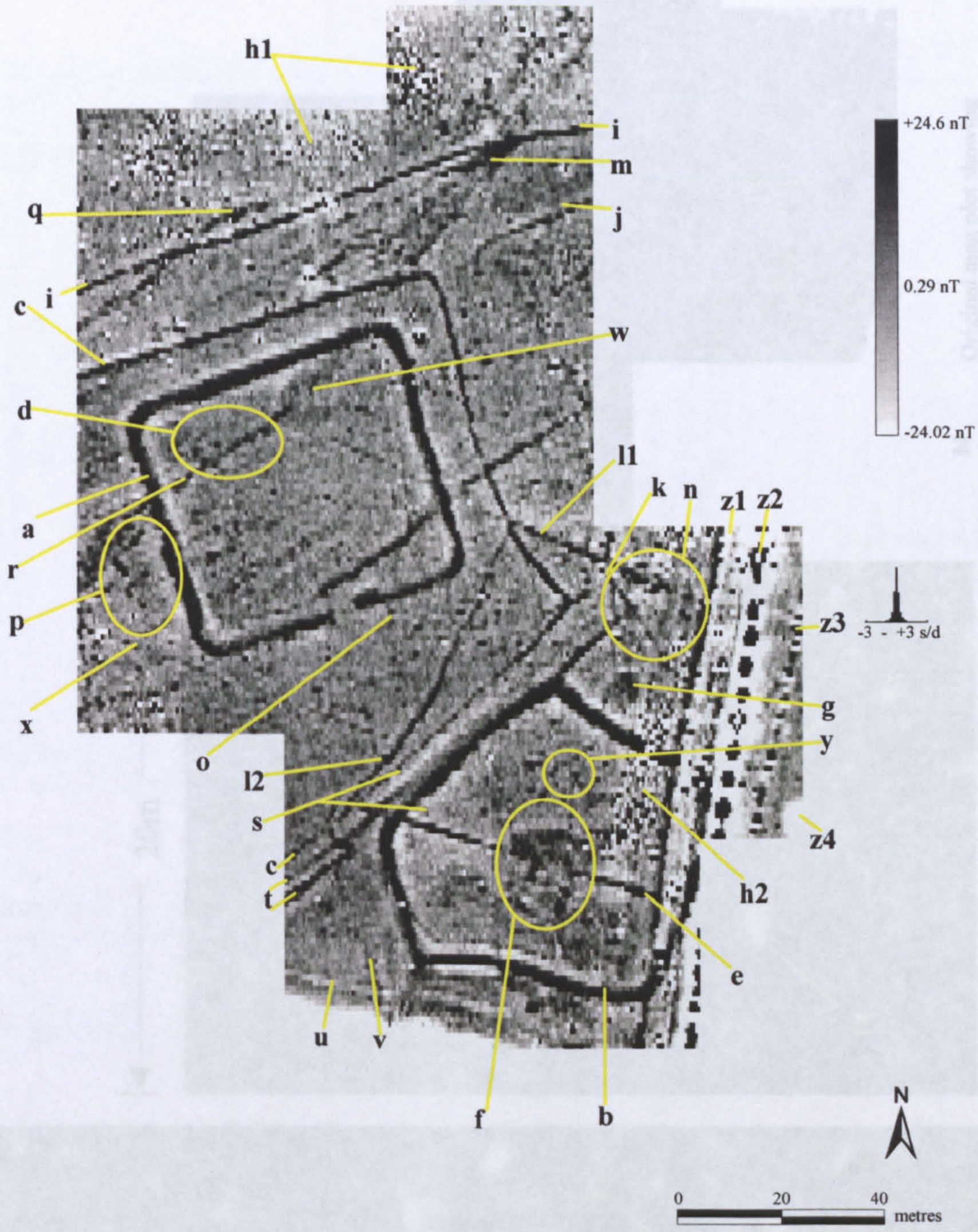


Figure 71: Annotated processed plot of primary FM36 survey in Ludgate Field, Mount Folly.

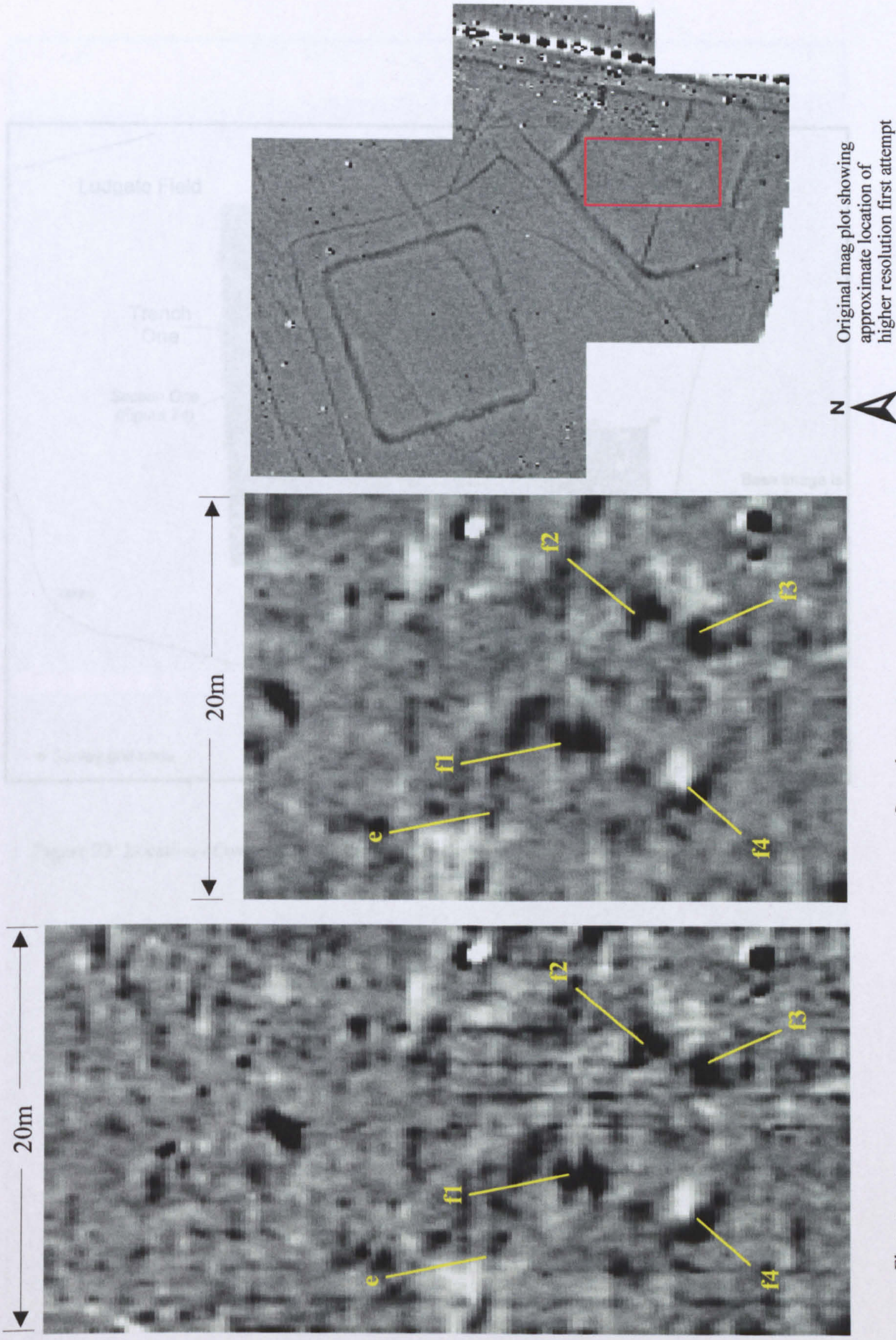


Figure 72: Further FM36 magnetometry survey of part of Ludgate Field.
Reading interval 0.25m; traverse interval 0.5m

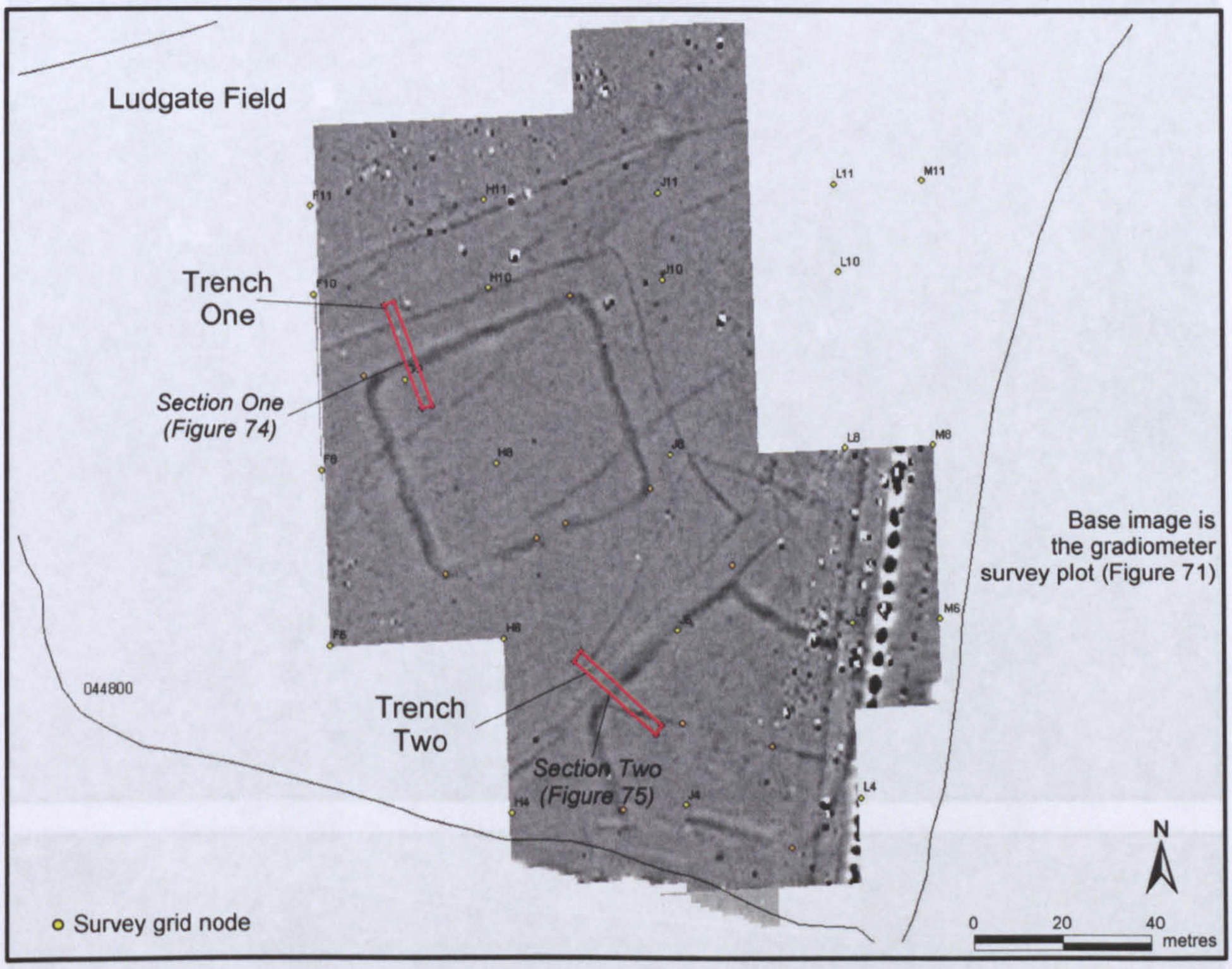


Figure 73: Location of two trenches excavated in Ludgate Field, Mount Folly, September 2003.

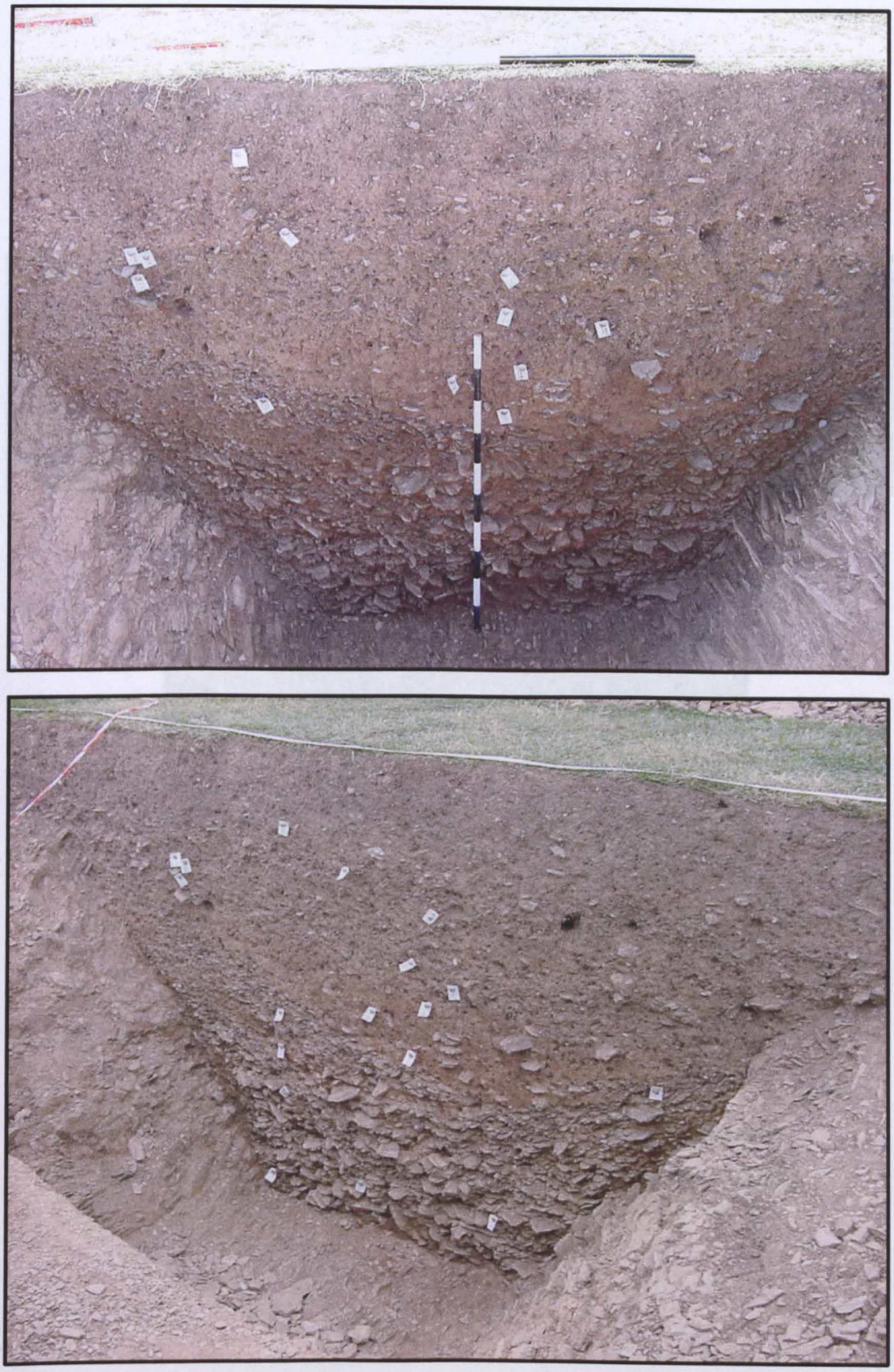
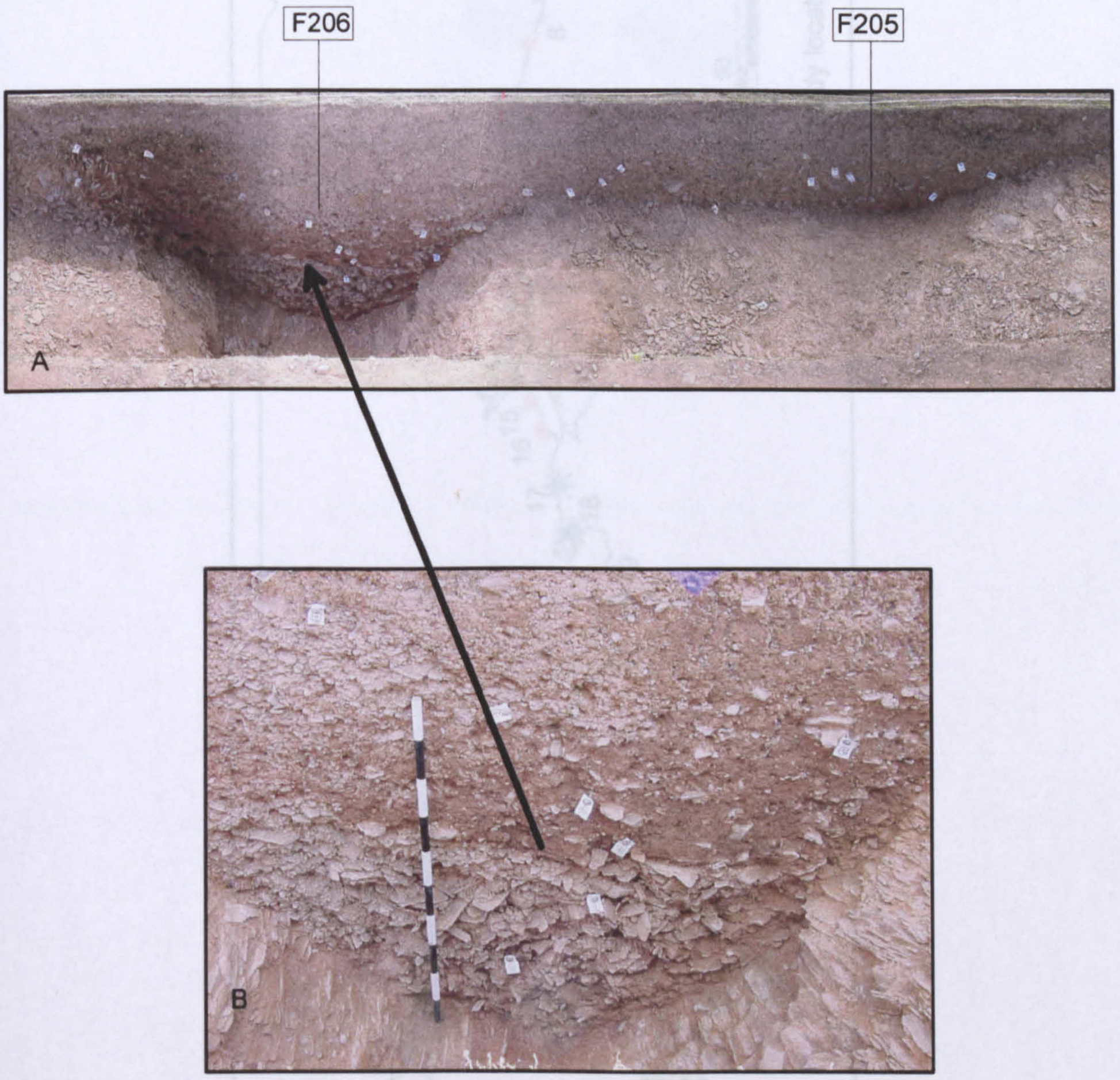


Figure 74: North-east facing section of the main enclosure ditch in Trench One, Mount Folly, September 2003.



A - Main enclosure ditch (F206) and intersecting linear feature (F205)
B - Base of the main enclosure ditch cutting into shillet - note 'U'- shaped profile.

Figure 75: North-east facing section of Trench Two, Mount Folly, September 2003.

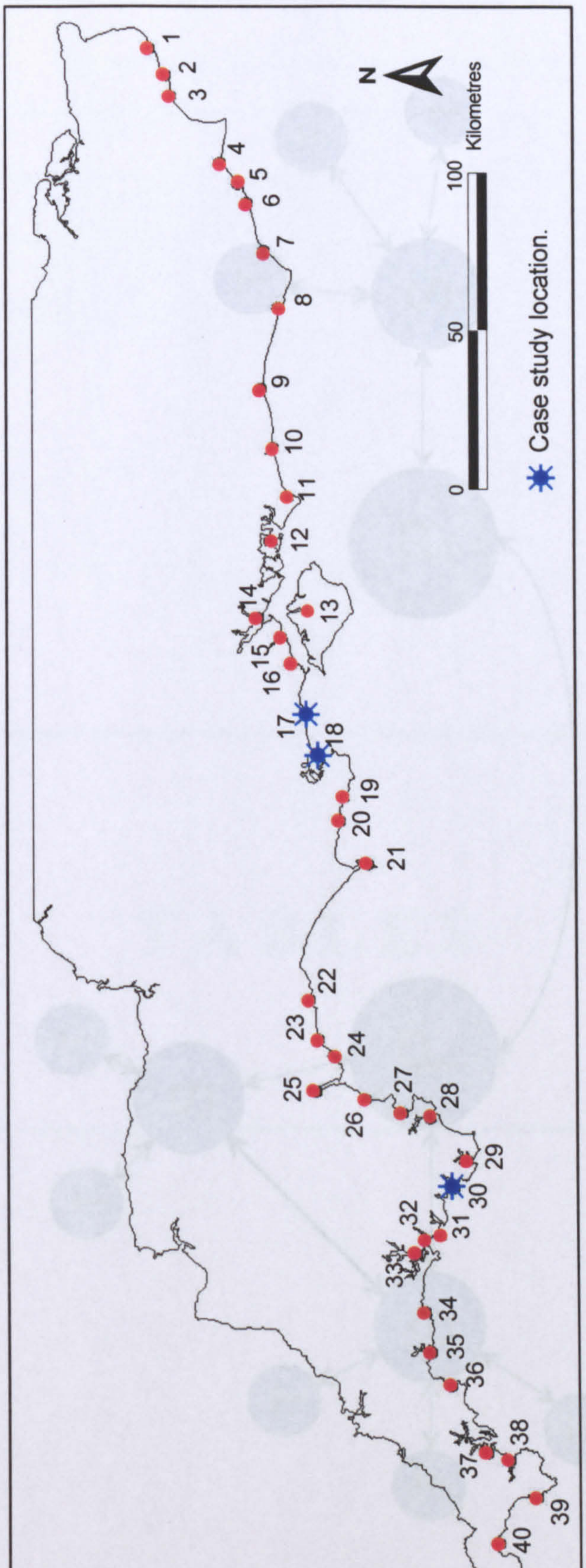


Figure 76: Forty locations identified as Iron Age coastal nodes on the south coast of Britain. (Numbers refer to site numbers in the text - see Table 6)

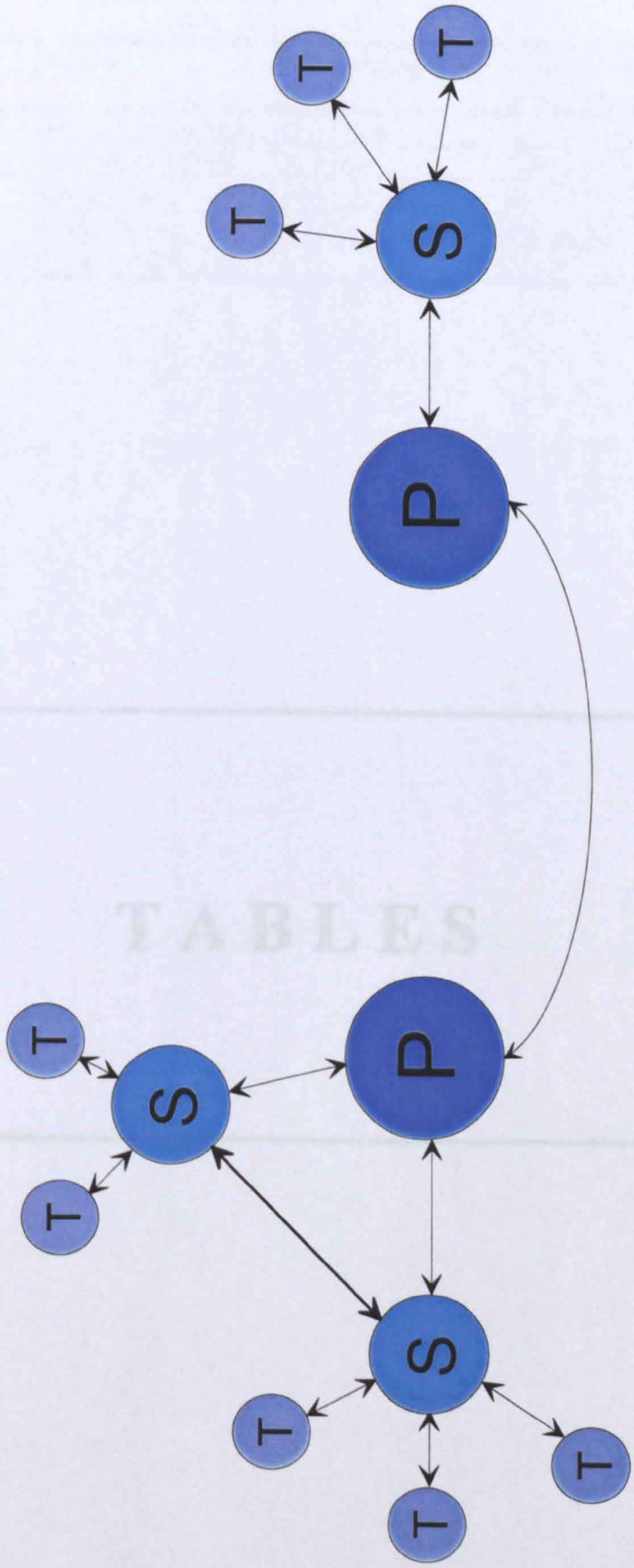


Figure 77: Reciprocal dendritic interaction routes of Primary (P), Secondary (S) and Tertiary (T) nodes. Note interaction between Primary nodes.

TABLES

Table 1 Comparison of regional RSL calculations.

Author	Region	RSL change pa	RSL change for past 2000 years	calculation based on
Devoy (1990)	North-west Europe	1 - 3 mm	0.5 - 1.0 m	sea-level rise
Shennan (1989)	South-east Britain	1.5 mm	3.0 m	land fall
Tooley (1990)	South Kent	0.7 - 0.9 mm	1.4 - 1.8 m	land fall
Tooley (1990)	South Devon	0.1 - 1.4 mm	0.2 - 2.8 m	land fall
Long and Roberts (1997)	South-west Britain	-	1.3 m	sea-level rise

Table 2 Prehistoric log boats from British waters.

Site	Boat date	Dimensions (lxbxh)	Notes
Appleby	1625 - 1205 BC cal	>7.5m x 1.35m	Found near the Humber. Oak, with stern board.
Short Ferry	1255 - 805 BC cal	>7.3m x 0.85m	Found Witham, Lincolnshire. Oak, with stern board.
Brigg I	1245 - 800 BC cal	14.78m x 1.37m x 1.0m	Oak. Good cargo carrying capacity and a potentially fast vessel.
Llandorse Lake	LBA/IA	7.2m x 635mm x 300-380mm	Fox (1926). Log hollowed out by axe, possibly palstave, not an adze. No sign of use of fire. Found *c* .460 m from an island in the lake that wholly/partially artificial. Inland water use. Rounded bow and stern. No stern board as Poole or Hasholme boats.
Peterborough	875 - 530 BC cal	>9.8m x 0.78m	Found at The Wash. Oak, with stern board.
Shapwick	2305+/-120bp (Q-357) (795 - 80 BC cal)	>6.0m x 0.75m	Oak
Ellesmere	465 - 200 BC cal	3.35m x 0.73m x 0.44m	From the Severn region. Oak. Capacity 1 person and 277 kg cargo.
Fiskerton	*c.* 457-317 BC (dendro date from adjacent structure)	Boat 1 *c* 7m long	Two boats found in 2001 on the river Witham at a site of ritual deposition in water. Associated with a timber causeway/jetty structure (Field and Parker Pearson 2003).
Clifton I	450 - 195 BC cal	8.55m x 0.76m x 0.36m	Oak, with stern board. Capacity two people and 361 kg cargo.
Clifton II	415 - 95 BC cal	9.25m x 0.76m x 0.38m	Oak, with stern board. Capacity two people and 533 kg cargo.
Poole Harbour	2245+/-50bp (Q821) (410 - 190 BC cal)	10.06m x 1.25m x 0.38m	Peers (1965). Oak. Found *c.* 75 m east of Brownsea Island in current main ship channel at *c.* -8.0 mOD. Has seperate stern board inserted in groove, secured with animal hide caulking from which RCD determined. Adze marks visible. Use in harbour, rivers, and some coastal work. Capacity four people and 898 kg cargo. High speed potential. Contemporary with the South Deep jetties (see Markey et al. 2002; Chapter Seven herein).
Holme Pierreport 1	2180+/-110bp (Birm-132) (410 - 135 BC cal)	>6.5m x 0.86m	Oak. The boats was found on top of a cartwheel with 12 spokes (McCormick and Musty 1973). Two other boats were also found but these are undated. Holme Pierrepoint 2 measured >5.3 x 0.82 m. Holme Pierrepoint 3 measured >10 m x 1.28 m. They are both thought to be contemporary with boat I.
Glastonbury I	340 - 30 BC cal	5.4m x 0.69m x 0.42m	Bulleid (1893). Oak. Capacity 1 person and 345 kg cargo. Wooden wheel fragments were found close to the boat remains (Bulleid and Gray 1911).
Halsholme	*c.* 300 BC (750 - 390 BC cal) (322 - 277 BC dendro date)	12.78m x 1.40m x 1.25m	Oak. Single piece stern board inserted into groove and punt-shaped bow (McGrail and Millett 1985). Oak. High standard of woodworking - similar technique to Poole Harbour logboat (McGrail 1978, 254-7). Found on R Foulness, operated on R Humber and tributeries. Could have carried five tonnes of cargo and crew of five (Millett and McGrail 1987).
Lock Arthur (Lotus)	2050+/-80bp (SRR-403)	14.1m x 1.5m	Oak

Data from McGrail (1990, 32; 1995a, Table 15.1) and other sources as indicated.

Table 3 Prehistoric plank boats from UK waters.

Site	Boat date	Notes
Kilnsea	*c*.1870 - 1670 cal BC	Van der Noort et al. (1999). Found Kilnsea beach, Yorkshire but associated with estuarine use in the Bronze Age. Oak. Single plank found with remains of a cleat. To date this is Britain's oldest recorded boat.
Caldicot	*c*.1594 - 1454 cal BC	Parry and McGrail (1991a; 1991b). Associated with hard; cleats similar to Ferriby and Brigg.
Dover	*c*.1600 BC	Parfitt and Fenwick (1993); Clark (1997). Found 1992 on river Dour. c.12 m long. Oak planks stitched with yew withies and caulked with moss. 'Unique' swallow-shaped end. Possibly sea-going; could be beached. Contemporary with Ferriby boats.
Ferriby 1	*c*.1390 - 1130 cal BC	Wright (1990). Humber Estuary. Capacity 20 crew, 30 passengers, and 2.9 tonnes cargo.
Ferriby 2	*c*.1300 cal BC	Wright (1990). Humber Estuary. Designed for speed.
Ferriby 3	*c*.1310 - 1060 cal BC	Wright (1990). Humber Estuary.
Goldcliff	After 1017 BC	Bell et al. (2000). Oak. Sewn planks. Found in Severn Estuary. Parallel Ferriby, Brigg, Caldicot, and Dover vessels.
Brigg	*c*.800 cal BC	McGrail (1981; 1985). Found on river Ancholme in 1888. Sewn planks. Flat-bottomed "ferry" over 12 m long. Stable and buoyant. Possibly capable of coasting and short open sea voyages (Roberts 1992) but this doubted by McGrail (1994). Certainly capable of being poled or paddled on tidal river. Capacity from 40 sheep and 10 people to 30 cattle and 20 people (McGrail 1994, 288).

Data from Van der Noort et al. (1999, Table 1); McGrail (1993, 204; 1995a, Table 15.3); and others as indicated.

Table 4 Early sailing vessels from UK waters.

Site	Boat date	Notes
Blackfriars I*	second century AD	17 m long. Flat bottomed vessel with no deep keel. Suited to tidal coastal waters and possibly open sea voyages. Could be beached or used alongside quay/jetty. Marsden (1967; 1981; 1990).
County Hall, London**	third century AD	22 m long; 5 m wide (Marsden 1967). Round hull with slightly protruding keel. Sea-going capability. Deep water quay required. Form more suited to the tideless Mediterranean. Marsden (1974; 1981).
St Peter Port*	third century AD	25 m long x 6 m wide x 3 m high. Oak. Flat-bottomed boat with three-part keel and single sail mounted forward of amidships. The same tradition as Blackfriars I and as the Venetic craft described by Caesar (*de Bello Gallico* III.13). Capable of open sea voyages. Rule and Monaghan (1993).
Barland's Farm*	third-fourth century AD	*c* .9.7 m x 2.6 m x 0.7 m surviving. Original dimensions probably *c* .11.4 m x 3.2 m x 0.8 m. Found within the Severn Estuary. Associated timber and stone structure interpreted as jetty or causeway. Oak planks fastened with hooked iron nails. Nayling et al. (1994).

* Romano-Celtic vessels (flat bottomed)

** Mediterranean style vessels (round bottomed)

Table 5 Matrix of physical traits at each identified coastal node site.

Ref	Site	Proximity to river routes	Promontory/ headland location	Identifiable land mark	Sheltered from westerlies	Safe haven with good anchorages	Beaching points/ facilities	Evidence for storage	Evidence of settlement/ accommodation	Island	River/ estuary location	Island	High ground element	Iron Age manufacturing evidence	Iron Age artefacts (xx if imports)	Primary (1), Secondary (2), Tertiary (3)*
1	Dover	x		x	x	x	x	x	x		x		x			1
2	Folkestone	x			x	x	x						x		x	3
3	Hythe	?			x	?	?				x				xx	
4	Rye Bay	x			x	?	?			?						
5	Fairlight		?	x	x	?	x								x	3
6	Hastings		x	x	x		x	x	?			x	x		xx	
7	Pevensey		x	x	x		x						x		xx	
8	Seaford Bay	x	x	x	x	x	x	?	?		x		x		xx	2
9	Shoreham	x			x	x	x		x		x		x			
10	Arun Valley	x			x	x	x				x		x			2
11	Selsey and Pagham	x	x	x	x	x	x	?	x	x				x	xx	
12	Hayling Island			x	x	x	x		?	x		x		?	x	
13	Isle of Wight	x	x	x	x	x	x	?	?	x	x	?	x	?	xx	2
14	Hamble Common	x	x		x	x	x		x		x	x				2
15	Beaulieu River	x	x	x	x		x		?		x	x	x		xx	3
16	Lymington	x			x	x	x				x		x			
17	Hengistbury Head	x	x	x	x	x	x	x	x	?	x		x	x	xx	1
18	Poole Harbour	x			x	x	x	x	x	x	x	x	x	x	xx	1/2
19	Kimmeridge				x	x								x		3
20	Bindon Hill		x	x	x	x	x	?	x				x		x	
21	Portland	?	x	x	x	x		?	x	x	x		x		x	1/2
22	Seaton	x			x	x	x		?		x	x	x		xx	

Table 5 Matrix of physical traits at each identified coastal node site.

Ref	Site	Proximity to river routes	Promontory/ headland location	Identifiable land mark	Sheltered from westerlies	Safe haven with good anchorages	Beaching points/ facilities	Evidence for storage	Evidence of settlement/ accommodation	Island	River/ estuary location	Island	High ground element	Iron Age manufacturing evidence	Iron Age artefacts (xx if imports)	Primary (1), Secondary (2), Tertiary (3)*
23	Sidmouth	x			x	x	x		?		x	x	x		x	
24	Otterton	x	x		x	x	x				x	?				
25	Topsham	x	x	x	x	x	x	?	?		x	?	?		xx	2
26	Teignmouth	x			x	x	x				x	x	x		x	
27	Tor Bay		x	x	x	x	x			?						
28	Dartmouth	x	x		x	x	x				x		x			
29	Kingsbridge Estuary	x			x	x	x				x	?				
30	Bigbury Bay	x	x	x	x	x	x	?	?	x	x	x	x	?	x	
31	Wembury	x		x		x	x			x	x					3
32	Mount Batten	x	x	x	x	x	x	x	x	x	x		x	x	xx	1
33	Tamar Estuary	x			x	x	x	?	?		x	?	x			2
34	Looe Bay	x		x	x	x	x			x	x		x			
35	Fowey	x	x	x	x	x	x	?	?		x	x	x		x	
36	Mevagissey Bay	x		x	x	x	x				x		x			
37	Falmouth	x	x		x	x	x	?	?		x	x	x		x	
38	Helford Estuary	x		x	x	x	x	x	x		x	x	x	x	x	2
39	Mullion			x		x	x			x			x			3
40	St Michael's Mount		x	x	x	x	x	?		x		?	x		x	1/2

Key:	x	confirmed trait/attribute
	?	unconfirmed trait/attribute

* evidence for scale of operation not available for all sites.

Table 6 List of 40 sites identified as possible Iron Age coastal nodes on the English Channel coast.

Ref	Site	Easting	Northing	County	Level of proof of node status	Possible complex of sites	assoc HGE
1	Dover	632000	141000	Kent	probable	y	y
2	Folkestone	623210	135950	Kent	potential	y	n
3	Hythe	616500	134150	Kent	potential	n	n
4	Rye Bay	595050	117950	Sussex	potential	y	n
5	Fairlight	588200	112100	Sussex	potential	n	n
6	Hastings	582050	109450	Sussex	probable	y	y
7	Pevensey	565900	104000	Sussex	potential	y	n
8	Seaford Bay	548000	99000	Sussex	probable	y	y
9	Shoreham	521600	104850	Sussex	potential	y	y
10	Arun Valley	502800	101000	Sussex	potential	y	n
11	Selsey and Pagham	487000	96500	Sussex	probable	y	n
12	Hayling Island	472500	101500	Hampshire	potential	n	y
13	Isle of Wight	450000	87000	Hampshire	probable	y	y
14	Hamble Common	448000	106250	Hampshire	potential	y	y
15	Beaulieu River	441900	98750	Hampshire	potential	y	y
16	Lymington	433000	95500	Hampshire	potential	n	y
17	Hengistbury Head	417250	90880	Dorset	definite	y	y
18	Poole Harbour	403700	86800	Dorset	probable	y	y
19	Kimmeridge	390600	79000	Dorset	potential	n	n
20	Bindon Hill	382900	80300	Dorset	probable	n	y
21	Portland	369000	71000	Dorset	probable	y	y
22	Seaton	325650	89820	Devon	probable	y	y
23	Sidmouth	312900	87400	Devon	potential	y	y
24	Otterton	307650	81950	Devon	potential	n	y
25	Topsham	296400	88200	Devon	probable	y	y
26	Teignmouth	294000	72230	Devon	potential	n	n
27	Tor Bay	289600	60240	Devon	potential	y	y
28	Dartmouth	287900	51300	Devon	potential	y	y
29	Kingsbridge Estuary	274100	39200	Devon	potential	y	y
30	Bigbury Bay	265600	43900	Devon	potential	y	y
31	Wembury Bay	250100	48250	Devon	potential	y	n
32	Mount Batten	248650	53250	Devon	definite	n	y
33	Tamar Estuary	244000	56000	Cornwall	probable	y	n
34	Looe Bay	225700	53300	Cornwall	potential	y	y
35	Fowey	212300	51300	Cornwall	probable	y	y
36	Mevagissey Bay	201700	44800	Cornwall	potential	y	y
37	Falmouth	180600	33500	Cornwall	probable	y	y
38	Helford Estuary	178000	26500	Cornwall	probable	y	y
39	Mullion	166100	17600	Cornwall	potential	y	y
40	St Michael's Mount	151500	29800	Cornwall	probable	y	y

	No	%
Potential	23	57.5
Probable	15	37.5
Definite	2	5.0

Table 7 High ground enclosures (hillforts) within five kilometres of the south coast.

Ref	Name	multi or uni	size	county	assoc node?	coast/ inland	Notes
1	Dover Castle	m	2	Ke	y	coast	at Dover node site
2	Hastings Castle	m	2	Su	y	coast	IA promontory fort; site reused by later Norman castle. Hastings node site.
3	Belle Tout	u	3	Su	n	coast	*c.* 4 km from Cuckmere Haven
4	Seaford Head	u	2	Su	y	coast	much eroded, like Flowers Barrow. Above rocky beach. Seaford node site.
5	Castle Hill	u	2	Su	y	coast	at Newhaven (Seaford node site)
9	Hollingbury Camp	u	2	Su	n	in	
12	Thundersbarrow Hill	u	1	Su	y	in	near river Adur; settlement and field system overlooking Shoreham and river.
15	Highdown	u	1	Su	n	in	end of Adur trib. Enc >1ha; 4x size of next largest Su enclosure.
19	Tourner Bury	u	2	Ha	y	coast	on Hayling Island.
20	Hamble Common Camp	u	3	Ha	y	coast	Hamble Common node site.
21	Hickley Farm	u	1	Ha	n	in	between rivers Hamble and Itchen
22	Lower Exbury	u	2	Ha	y	coast	at the end of Beaulieu River.
23	Chilworth Ring	u	2	Ha	n	in	
24	Castle Hill	u	1	Ha	n	in	
25	Nursling	u	1	Ha	n	in	
27	The Walls	u	3	Ha	n	in	on River Test
29	Tatchbury	m	2	Ha	n	in	
30	Ampress	m	2	Ha	y	in	on Lymington River
31	Buckland Rings	m	2	Ha	y	in	on Lymington River
33	Hengistbury Head	m	3	Do	y	coast	on Christchurch Harbour
34	St Catherine's Hill	u	2	Ha	y	in	overlooks Christchurch Harbour and river Avon
36	Bulbury	u	2	Do	y	in	overlooks back (north) of Poole Harbour
37	Flowers Barrow	m	2	Do	n	coast	*c* .5 km W of Kimmeridge, but out of sight.
39	Bindon Hill	u	3	Do	y	coast	Above Lulworth Cove.
41	Chalbury	u	2	Do	y	in	5 km NW of Weymouth and Portland
43	Maiden Castle	m	3	Do	y	in	near Frome tributary; also N of Weymouth/Portland: Durotrigian 'centre'
44	Abbotsbury	m	2	Do	n	in	overlooks long stretch of coast
45	Chilcombe Hill	u	3	Do	n	in	on tributary of river Brit
46	Shipton Hill	u	1	Do	n	in	overlooks tributary of river Brit
48	Coney's Castle	u	2	Do	n	in	end of Char tributary
49	Musbury Castle	m	2	De	y	in	overlooks Axe; 5 km NE of Seaton
50	Hawkesdown Camp	u	2	De	y	in	on Axe, near coast, 1.5 km from Seaton coast
51	Seaton Down	m	2	De	y	in	on Axe trib, 2.5 km NW of Seaton.
52	Berry Cliff Camp	u	2	De	y	coast	5 km E of Sidmouth
53	Blackbury Castle	u	2	De	n	in	on Axe tributary, behind Berry Cliff Camp
54	Sidbury Castle	u	2	De	y	in	on Sid, 4 km N of Sidmouth
55	High Peak	u	2	De	y	coast	3 km SW of Sidmouth and 4.75 km NE of Otterton
56	Woodbury Castle	m	2	De	y	in	end of tributaries of Exe and Sid; *c.* 6 km E of Topsham
57	Berry Head	u	2	De	y	coast	south point of Tor Bay
59	Noss Camp	m	2	De	y	coast	above River Dart, Dartmouth
60	Milber Down	m	2	De	n	in	on river Teign

Table 7 High ground enclosures (hillforts) within five kilometres of the south coast.

Ref	Name	multi or uni	size	county	assoc node?	coast/ inland	Notes
62	Berry's Wood Camp	u	2	De	n	in	on a Teign tributary
63	Capton Camp	u	1	De	y	in	overlooks River Dart tributary; 4.5 km W of Noss Camp across the river Dart
64	Woodbury Camp	u	2	De	y	in	on river, near coast; 2 km S of Capton Camp
65	Widdicombe Camp	u	1	De	n	in	near coast, at end of river leading to Kingsbridge Estuary
66	Slapton Castle	u	2	De	n	in	on river, near coast
67	Halwell	u	1	De	n	in	end of tributaries to Avon, Kingsbridge, and Dart
70	Burleigh Dolts Camp	m	1	De	y	in	4 km W of Kingsbridge Estuary
71	Bolt Tail	u	3	De	y	coast	on S point of Bigbury Bay
72	Yarrowbury	u	2	De	y	in	near Bigbury Bay and Mount Folly site
73	Holbury Camp	u	2	De	y	in	on Erme Estuary, near Mothecombe at N of Bigbury Bay
74	Coldrings Camp	m	1	De	n	in	near River Yealm
75	Waste Berry	m	2	De	n	in	on tributary of River Yealm
76	Boringdon Camp	u	2	De	n	in	between river Plym and tributary, NE of Mount Batten
78	Castle Borough	u	1	De	y	coast	3 km SEE of Mount Batten
79	The Wilderness	u	1	De	n	in	on river Tavy
80	Berrator Camp	u	1	De	n	in	on Tavy tributary
81	Rame Head	u	3	Co	y	coast	overlooks entrance to Plymouth Sound: Mount Batten and Tamar ndes
82	Perdredda Camp	u	1	Co	n	in	by stream
86	The Wedding Ring	u	1	Co	y	in	near W Looe river; 2.5 km W of confluence with E Looe River
87	St Nun's Camp	u	1	Co	y	in	3.5 km NW of confluence of W and E Looe rivers; on spur overlooking W Looe River
88	Hall Rings	m	1	Co	n	in	near river
89	Bury Camp	m	1	Co	n	in	between rivers
90	Bake Rings	u	1	Co	n	in	near river leading to Fowey
91	Castle Dore	m	1	Co	y	in	between rivers; 3.5 km NW of Fowey
92	Trenuthon Camp	m	1	Co	y	in	near river Fowey; 0.5 km S of Castle Dore on same hilltop
93	Prideaux Camp	m	1	Co	n	in	between rivers
94	Black Head	m	2	Co	y	coast	south St Austell Bay; N point of Mevagissey Bay
95	Castle Gotha	u	1	Co	n	coast	near St Austell Bay; 0.5 km from coast
96	Castle Hill	u	1	Co	y	in	1.5 km up Portmellon Creek from Mevagissey Bay
97	Dodman Point	m	3	Co	n	coast	promontory fort
98	Pencoose Castle	u	1	Co	n	in	on river
100	Castlezens Camp	u	1	Co	n	in	on river
102	Carne Castle	m	1	Co	n	coast	on stream to Carne Beach
103	Dingerein Castle	m	1	Co	n	coast	by river, near coast
104	Carwarthen	u	1	Co	y	coast	on Fal Estuary; 1 km E of Carrick Roads
105	Round Wood Camp	m	1	Co	y	coast	on Fal Estuary, on promontory where two tributeries meet river Fal
106	Bishop's Wood Camp	u	2	Co	n	in	on river to Fal Estuary

Table 7 High ground enclosures (hillforts) within five kilometres of the south coast.

Ref	Name	multi or uni	size	county	assoc node?	coast/ inland	Notes
107	Tregullas Round	u	1	Co	n	in	near river to Fal Estuary
108	Governs Camp	u	1	Co	n	in	near river to Fal Estuary
109	Carrine Camp	u	1	Co	n	in	on river to Fal Estuary
110	Halwyn Camp	u	1	Co	n	in	very near Helford and tributaries
111	Maiden Green Camp	u	1	Co	n	in	on river to Fal Estuary
112	Dennis Head	u	1	Co	y	coast	at mouth of Helford Estuary
113	Chynhalls Point	u	2	Co	n	coast	south Lizard
115	Carlidnack Camp	u	1	Co	y	in	very near Helford and tribs; 2.5 km N of Helford mouth
117	Lankidden	u	2	Co	n	coast	south Lizard: Promontory Fort at Lankidden Cove
118	Trevaids Rounds	u	1	Co	y	in	very near Helford and tributaries; 2.5 km N of Helford
119	Trelan Plantation South	u	1	Co	n	in	south Lizard
120	Trelan Plantation West	u	1	Co	n	in	south Lizard
121	Tremayne Camp	u	3	Co	y	coast	Helford; 0.25 km S of Helford
122	Caervallack	m	1	Co	y	in	very near Helford and tributaries; 1.25 km S of Helford
123	Gearhill Camp	u	2	Co	y	coast	1km S of Helford: big settlement
124	Haliggye	u	1	Co	n	in	very near Helford and tributaries
125	Gweek Camp	u	1	Co	n	in	very near Helford and tributaries
126	Crasken Round	u	1	Co	n	in	near river near coast
127	The Towans	u	2	Co	y	coast	south Lizard at Mullion
128	Prospidnick Hill	m	2	Co	n	in	near river to south Lizard
129	Castle Wary	u	1	Co	n	in	near River Cober, near coast
130	Sithney Round	u	1	Co	n	in	near river near coast
131	St Elvan Round	u	1	Co	n	in	near river near coast
132	Burncoose Camp	u	1	Co	y	in	near coast
133	Castle Pencaire East	u	1	Co	n	in	
134	Castle Pencaire North-east	u	1	Co	n	in	
135	Castle Pencaire	m	1	Co	n	in	
136	North Treveneague	u	1	Co	y	in	*c* .4 km NE of St Michael's Mount
137	Lescudjack Castle	u	1	Co	y	coast	Mounts Bay
138	Lesingey Round	u	1	Co	y	in	on river to Mounts Bay; 2km E of Mounts Bay
139	Higher Faugau	m	1	Co	y	in	on river; E of Mounts Bay
140	Castallack	u	1	Co	y	in	E of Mounts Bay
141	Kerris Roundago	u	1	Co	y	in	
142	Boleigh	m	1	Co	n	in	on river
143	Treryn Dinas	m	2	Co	n	coast	near continental import (further up river)

u univallate
m multivallate

1 <1.2ha
2 1.2-6 ha
3 >6ha

Table 8 Breakdown of identified node sites by sector and by county.

	South-east			South central			South-west			
	number of sites	% of coastal total	% within sector	number of sites	% of coastal total	% within sector	number of sites	% of coastal total	% within sector	Total number
Total	11	27.50	100.00	10	25.00	100.00	19	47.50	100.00	40
Definite	0	0.00	0.00	1	50.00	10.00	1	50.00	5.26	2
Probable	4	26.67	36.36	4	26.67	40.00	7	46.67	36.84	15
Potential	7	30.43	63.64	5	21.74	50.00	11	47.83	57.89	23

	No	% of total
Cornwall	8	20.0
Devon	11	27.5
Dorset	5	12.5
Hampshire	5	12.5
Sussex	8	20.0
Kent	3	7.5
Total	40	

Table 9 Chronology of use of Poole Harbour elements and Hengistbury Head (Adapted from various sources).

Date	Furzey Island	Green Island	Ower	HH	General
800 BC 700 600 500 400 300	**Phase1** BA and agricultural settlement clearances; east of island favoured			**800-400BC** **LBA/EIA** extensive settlement on flat land and on top of Warren Hill.Early linear e/w Barnfield.	
200	**Phase2** Later than 300 BC, probably 2nd cent BC. Revitalised pre-existing agricultural settlement. Clearances; Enc C used for stock. Arable, pastoral, harbour resources. Hand worked shale.	'Green Island Causeway' *c.* 250 BC		**400-100BC MIA** Reduced occupation but still circular structures in northern zone. Early Iron Age gravel terrace area abandoned. Smaller scale settlement.	Increase in cross-Channel trade
100 50 20 0 AD 50	**Phase3A** 100-50 BC Complex use of Furzey Island. Reestablish Enc E - grander. Large scale shale and lathe work.Small scale iron smithing. Salt production. Imports: DrI from Italy; black cordoned wares from France. Increase in status, wealth and surplus. **Phase3B** Big decrease in activity. Hardly any/no imports. Accessibillity problems. No Gallo-Belgic fineware. Abandoned late 1st century BC.		Settlement planned and established *c* .20 BC. Nothing yet from excavation prior to that. Intensive shale working.	**LIA1: 100-50BC** **Contact Period** Atlantic seaways. Coarse and finewares from France; DrI amphora. Occupied harbour shore. Hard facility and gravel road Salt production; bronze work glass manufacture. Local ceramics; South-western Decorated Ware; imports. **LIA2:50BC-AD50** **Durotrigian Period** Durotrigian pottery and copies N French types: all found associated with mid 1st cent BC Italian and Spanish amphorae. Major site reorganisation: extended up hillslope. Gravel terrace reused (EIA) so fall in sea-level inferred. Bronze, iron, glass working. Arable agriculture.	Large scale international trade contacts. Increase continental trade. Mount Batten, Devon in use.

Table 10 Iron Age finds from Ower Peninsula.

Finewares and Continental Imports (sherd count) (from Woodward 1987, Table 1, 74-5)							
	Samian	Terra Nigra	Terra Rubra	First century AD Gallic imports	First century AD coarse imports	First century AD native finewares	Amphorae
Phase 1	4	2	5	17	1	3	48
Phase 2	2	10	9	25	-	-	11
Total	6	12	14	42	1	3	59
Site total (all phases)	113	61	60	339	8	17	361
IA material as % of site total	5.31	19.67	23.33	12.39	12.50	17.65	16.34

BB1 vessels (sherd count) (from Woodward 1987, Table 3, 80-1)									
	Cook pots	Jar bowls	Open bowls	Lids	Beakers	Other	Bases	Handles	Body decorated
Phase 1	48	83	44	1	7	1	14	10	9
Phase 1/2	2	10	7	-	1	-	10	-	-
Phase 2	30	50	28	1	9	-	21	3	2
Total	80	143	79	2	17	1	45	13	11
Site total (all phases)	158	263	131	3	21	1			
IA material as % of site total	50.63	54.37	60.31	66.67	80.95	100.00			

Briquetage (from Woodward 1987, Table 5, 94)										
	Rim sherds		Body sherds		Base sherds		Totals			
	number	weight (g)	number	weight (g)	number	weight (g)	number	weight (g)	number %	weight %
Phases 1 and 2	-	-	44	234	2	22	46	256	2.43	1.17
Site total (all phases)	78	3105	1797	17769	16	961	1891	21835	100	100
IA material as % of site total	-	-	2.45	1.32	12.50	2.29	2.43	1.17	2.43	1.17

Table 10 Iron Age finds from Ower Peninsula.

Metalwork (from Woodward 1987, Table 6, 97)					
	Brooches bronze/iron	Bronzes	Iron nails	Iron work	Totals
Phase 1	5	1	1	5	12
Phase 2	1	-	1	4	6
Total	6	1	2	9	18
Site total (all phases)	17	11	59	125	212
IA material as % of site total	35.29	9.09	3.39	7.20	8.49

Miscellaneous objects (from Woodward 1987, Table 7, 100)				
	Spindle whorls and loom weights	Slag and cinder	Glass	Totals
Phase 1	4	5	1	10
Phase 2	1	1	-	2
Total	5	6	1	12
Site total (all phases)	12	6	21	39
IA material as % of site total	41.67	100.00	4.76	30.77

Shale (from Woodward 1987, Figure 9, 112)							
	Unworked, raw material	Worked waste	Prepared for armlet	Cores (type A)	Rough out armlets	Finished products	Total
Phases 1 and 2	7	13	1	3	1	-	25
Site total (all phases)							187
IA material as % of site total							13.37

Table 11 Details of late Iron Age enclosures and ditches in southern Poole Harbour, Dorset, and Mount Folly, Devon.

Table 11a Details of late Iron Age enclosures and ditches at Ower Peninsula, Poole Harbour.
(summarised from Cox and Hearne 1991, 73-6)

Feature	Morphological outline	Enclosure dimensions (m)	Ditch width (m)	Surviving ditch depth (m)	Ditch profile	Notes
Enclosure A	sub-rectangular	40 x 32	2.2 - 2.5	0.95 - 1.24	U, with sloping sides	Durotrigian pot in primary fill.
Enclosure B	sub-rectangular	50 x ?30	2.4	0.85	-	Imported finewares in primary fill and postholes within enclosure.
Enclosure C	-	-	0.35	0.9	flat bottomed	Disturbed by RB building activity; much crushed cockleshell and local ceramic in primary fill.
Enclosure D	-	30 x ??	-	-	sloping sides and flat base	Pre-Conquest imported finewares in primary fill.
Enclosure E	-	-	1.1	0.15	insufficient survived	Native coarsewares and amphorae in ditch.
Ditch 495	-	-	3.3	1.2	-	Possibly part of north-south droveway or boundary ditch dividing the network of IA enclosures.
Ditch 335	-	-	3.9	1.2	steeply sloping sides and slightly rounded base	Possibly eastern boundary ditch.

Table 11 Details of late Iron Age enclosures and ditches in southern Poole Harbour, Dorset, and Mount Folly, Devon.

Table 11b Details of late Iron Age enclosures and ditches on Furzey Island, Poole Harbour.
(summarised from Cox 1988)

Feature	Morphological outline	Enclosure dimensions (m)	Ditch width (m)	Surviving ditch depth (m)	Ditch profile	Notes
Enclosure A	rectilinear	40 x ??	>2.50	>1.0	broad, U-shaped	Ditch finds include shale waste and phase 1 pottery (first century BC); possibly an external bank.
Enclosure B	rectilinear		2.50	*c* 0.6		Small amount of IA pot; ceramic phases 1/2 (first century BC); shale waste.
Enclosure C						Animal enclosure of 0.4 ha.
Enclosure D						
Enclosure E		60 x 65	2.00	1.00	U-shaped	Settlement enclosure of 0.23 ha first constructed in MIA and embellished in LIA.

Average enclosure ditch on Furzey Island was *c* .2.0 m wide, *c* .1.0 m deep, with a U-shaped profile.

Table 11c Details of parallel late Iron Age ditches on Green Island, Poole Harbour.
(detail from Wessex Archaeology 2003b, 12)

Feature	Morphological outline	Enclosure dimensions (m)	Ditch width (m)	Surviving ditch depth (m)	Ditch profile	Notes
307, trench 3	-	-	0.70	0.70	steeply sloping sides to narrow base	Late Iron Age pottery found in ditch fill.
309, trench 3	-	-	0.70	0.30	broader and more rounded base than ditch 307	Ditch was overlain by later pit, so original depth of ditch not known.

Table 11 Details of late Iron Age enclosures and ditches in southern Poole Harbour, Dorset, and Mount Folly, Devon.

Table 11d Details of late Iron Age enclosures and ditches at Mount Folly, Devon.
(see Chapter Eight)

Feature	Morphological outline	Enclosure dimensions (m)	Ditch width (m)	Surviving ditch depth (m)	Ditch profile	Notes
Enclosure 1	rectilinear	50 x 50	3.00	1.76	broad, flat base *c*.1.2 m wide with regular, straight sides	Inner ditch find of one sherd of South Devon LIA pottery.
Enclosure 2	irregular	*c.* 50 x 50	2.80	1.56	broad, U-shaped; irregular form in shillet	Six sherds of LIA south-western fabric pottery and one sherd of Early Roman grey Exeter ware (rim).

Table 12 Furzey Island phasing based on a combination of excavation stratigraphy and ceramic evidence.
(adapted from Cox 1988 and Cox and Hearne 1991, 47 and 48)

Phase	Period	Date	Notes
1	LBA - MIA		camp/settlement at east end of island; agricultural practices and clearances.
2	MIA	late 3rd - 2nd century BC	construction of a series of enclosures, including the major Enclosure E; intensive agriculture.
3a	LIA	*c*. 100 - 50 BC	outer bank added to Enclosure E; increased shale working, iron smithing and salt production; international trade evident .
3b	LIA	*c*. 50 BC onwards	decline to only a few imports; abandonment.
4	RB - post med		

Table 13 Comparison of Iron Age pottery ratios from sites in Poole Harbour and Hengistbury Head.

Site	Total pottery count	Imported pottery (continental)	'Native' wares
Hengistbury Head* (Cunliffe 1987)	17968 (all periods)	551 3.1%	17417 96.9%
Furzey Island (Cox 1988)	570 (Iron Age)	6 1.1%	564 98.9%
Green Island (Chapter Seven)	2011 (Iron Age)	48 2.4%	1973 98.1%
Ower Peninsula (Cox and Hearne 1991)	8641 (First centuries BC/AD)	305 3.5%	8336 96.5%
All Poole Harbour sites (combined from above)	11222	359 3.2%	10873 96.8%

* The published report does not provide a basic breakdown of the assemblage so these figures are derived from comments in the report text.

Table 14 Radiocarbon dates mentioned in the text.

RCD reference	Site	Material	RCD determination	Calibrated date	Site reference
HAR-5775	Bantham, Devon	bone	1690+/-80 BP	350+/-95 AD	Griffith
HAR-5776	Bantham, Devon	charcoal	1440+/-90 BP	605+/-90 AD	Griffith
AA-33125	Bantham, Devon	charcoal	2950+/-60 BP		Griffith and Reed 1998
A-10005	Thurlestone, Devon	peat	3370+/-50 BP	1870 - 1840 BC and 1780 - 1520 BC (2 sigma)	Reed and Whitton 1999
A-10006	Thurlestone, Devon	peat	3445+/-50 BP	1900 - 1630 BC (2 sigma)	Reed and Whitton 1999
	Poole log boat	animal hide			McGrail and Switsur 1975
Beta-164887	Green Island "causeway", Poole Harbour	oak	2080+/-60 BP	360 - 290 BC and 240 BC - 60 AD	See Chapter Seven
Beta-164888	Green Island "causeway", Poole Harbour	oak	2260+/-60 BP	410 - 170 BC	See Chapter Seven
Beta-164889	Green Island "causeway", Poole Harbour	oak	2120+/-60 BP	360 - 270 BC and 260 BC - 10 AD	See Chapter Seven
Beta-182644	Green Island "causeway", Poole Harbour	oak	2190+/-60 BP	390 - 90 BC	See Chapter Seven
Beta-182645	Green Island "causeway", Poole Harbour	oak	2310+/-60 BP	800 - 700 BC and 550 - 150 BC	See Chapter Seven
Beta-182646	Green Island "causeway", Poole Harbour	oak	2370+/-70 BP	800 - 350 BC and 300 - 200 BC	See Chapter Seven
Beta-182647	Green Island "causeway", Poole Harbour	oak	2180+/-60 BP	390 - 90 BC and 80 - 60BC	See Chapter Seven
Beta-182648	Green Island "causeway", Poole Harbour	oak	2100+/-70 BP	360 - 270 BC and 260 BC - 60 AD	See Chapter Seven
Beta-182649	Green Island "causeway", Poole Harbour	oak	2150+/-60 BP	380 - 40 BC	See Chapter Seven
Beta-182650	Green Island "causeway", Poole Harbour	oak	2090+/-70 BP	360 - 280 BC and 260 BC - 60 AD	See Chapter Seven

Table 15 Co-ordinates of survey points established for fieldwork in Poole Harbour and at Mount Folly.

PermaPegs in southern Poole Harbour, Dorset

Peg	Easting	Northing	Elevation (mOD)	Notes	Established
GIC1	400197.000	86079.040	1.16	Econopeg capped with yellow disc (split) marked GIC1 in gap along hedge/fence line at CP	26-Sep-00
GIC-B1	400197.000	86059.020	1.2	PermaPeg with metal cap and yellow disc marked GIC-B1; 20m S of GIC1 at Cleavel Point	26-Sep-00
GIA1	400699.980	86795.001	1.25	PermaPeg with metal cap and yellow disc marked GIA1; by land-end of jetty on Green Island	19-Apr-02
GIA2	400699.990	86755.020	0.65	PermaPeg with metal cap and yellow disc marked GIA2; 20m S of GIA1	19-Apr-02
GIA3	400505.000	86525.010	18.09	PermaPeg with metal cap and yellow disc marked GIA3; in west of Island by Helipad	19-Apr-02
GIA4	400505.010	86510.000	17.79	PermaPeg with metal cap and yellow disc marked GIA4;15m S of GIA3	19-Apr-02

PermaPegs at Mount Folly, Bigbury Bay, Devon

Peg	Easting	Northing	Elevation (mOD)	Notes	Established
MTF1	266012.27	44888.25	108.6	PermaPeg with metal cap and yellow disc marked MTF1	Sep-03
MTF2	266014.11	44848.56	107.66	PermaPeg with metal cap and yellow disc marked MTF2; 40m S of MTF1	Sep-03

Table 16 Test pits excavated as part of case study fieldwork on Green Island, 2001-2003.

TP	Easting	Northing	Elevation of top of pit (mOD)	Depth of excavated pit (m)	Season
02	400647.130	86749.640	1.880		2001
03	400680.010	86780.010	1.190		2001
04	400459.680	86681.120	6.150		2001
05	400510.015	86690.030	5.280		2001
06	400547.520	86697.900	4.750		2001
07	400585.030	86715.000	3.620		2001
08	400679.690	86735.550	1.690	0.760	2003
09	400460.040	86650.010	11.170		2001
10	400500.100	86655.000	8.250		2001
12	400672.330	86695.100	8.880		2003
13	400654.600	86662.050	4.640	1.100	2003
15	400473.260	86615.170	15.320		2001
16	400510.040	86600.000	13.150		2001
17	400548.441	86621.989	9.630		2002
18	400617.552	86678.752	5.162		2002
19	400560.888	86575.753	13.016	0.800	2003
20	400656.000	86592.189	5.363	0.900	2003
21	400481.822	86552.863	19.606		2002
22	400528.992	86568.778	16.525		2002
23	400575.775	86585.575	11.478	1.000	2002
24	400715.400	86616.630	1.720		2003
25	400677.596	86659.860	2.819		2002
27	400509.124	86510.896	17.594		2002
28	400553.687	86523.082	16.539		2002
29	400625.182	86553.676	9.608		2002
30	400667.224	86571.674	4.705		2002
31	400651.270	86597.710	7.990	1.000	2003
32	400564.170	86702.420	5.210	0.900	2003
33	400653.523	86492.193	10.522	0.800	2003
36	400588.944	86499.175	14.644		2002
38	400695.184	86698.136	1.744		2003
40	400755.240	86587.010	1.420	0.700	2003

Table 17 Percentages of diagnostic material recovered from Green Island test pit survey.

	Pottery No	Pottery mass	Flint No	Flint mass	Shale No	Shale mass	Slag No	Slag mass	B/O No	B/O mass
TP2	3.43	4.39	9.38	14.74	2.53	8.61	0.00	0.00	0.00	0.00
TP3	0.65	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TP4	1.29	0.96	3.13	1.12	0.95	0.73	0.00	0.00	0.00	0.00
TP5	0.70	0.46	3.13	1.81	1.58	3.30	0.00	0.00	0.00	0.00
TP6	1.54	1.48	1.88	1.46	0.00	0.00	0.00	0.00	0.00	0.00
TP7	8.85	8.02	38.13	38.30	28.16	9.16	0.00	0.00	0.00	0.00
TP8	12.23	11.41	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.00
TP10	0.20	0.08	0.63	1.22	1.90	3.35	0.00	0.00	0.00	0.00
TP13	7.71	13.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TP16	0.25	0.42	1.25	2.56	0.00	0.00	0.00	0.00	0.00	0.00
TP17	8.16	3.64	26.88	19.98	31.96	21.98	53.33	55.30	6.25	0.31
TP18	4.18	3.98	6.88	13.17	3.16	3.30	0.00	0.00	25.00	31.64
TP19	1.19	0.97	0.00	0.00	0.32	0.14	0.00	0.00	0.00	0.00
TP20	16.51	15.81	0.00	0.00	0.00	0.00	20.00	23.77	0.00	0.00
TP23	5.12	11.56	1.25	0.33	25.63	42.49	6.67	1.91	43.75	23.44
TP25	4.62	3.96	3.75	1.14	1.27	0.55	6.67	8.51	25.00	44.61
TP28	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TP29	0.80	0.46	1.88	1.00	0.32	0.18	0.00	0.00	0.00	0.00
TP30	2.64	2.19	0.00	0.00	0.95	0.37	13.33	10.51	0.00	0.00
TP31	2.83	4.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TP32	10.04	7.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TP33	0.55	0.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TP40	6.46	4.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
unstrat	0.00	0.00	1.88	3.18	1.27	5.86	0.00	0.00	0.00	0.00

B/O Bone/other material

Table 18 Shale armlets found on skeletons in Iron Age graves.

Site	Date	Wearer	Armlet position	Armlet diameter
Maiden Castle War Cemetery	Iron Age C	Adult female	above right elbow	*c*.66 mm
Fordington Cemetery	Romano-British	Adult female	wrist	*c*.60 mm
Tollard Royal	Iron Age	Adult male	left wrist	*c*.56 mm
Winnall Down	Middle Iron Age	Male youth (<15 years old)	on arm	*c*.55 mm

Table 19 Enclosures within five kilometres of the coast of Bigbury Bay, Devon.
(Data from Devon HER)

Devon HER No	Easting	Northing	Note	Ref/Date
SX64NE/190	266950	46260	rectilinear single ditch enclosure 50 m x 55 m; wide views to Avon estuary and to the sea.	DAP/VL 29-31 070792
SX64NE/191	266300	46900	sub-rectangular enclosure 60 m x 60 m; NW and SE sides are double-ditched or recut.	DAP/VL 25-28 070792
SX64NW/42	264600	47900	single ditched enclosure, diameter *c* .60 - 70 m.	DAP/SE 7,8 270690
SX64NW/43	264500	46300	single ditched, sub-rect enclosure with internal features; possibly attached to another enc.	DAP/PF 4-6 270789
SX64NW/44	263700	47200	single ditched, circular enclosure.	DAP/0A 7 120789
SX64NW/45	262100	46500	single ditched, rect enc; *c.* 70 m x 30 m; possible farmstead of late prehistoric/RoB date.	DAP/PF 9,10 270789
SX64NW/46	263500	46200	part curvilinear single ditch enc SE of Scobbiscombe.	DAP/PF 7,8 270789
SX64NW/47	263100	47100	Scobbiscombe double-ditched sub-rect enc; probably surrounded by IA/RoB farmstead.	DAP/OA 6 120789
SX64NW/48	263000	47000	Scobbiscombe single ditched, rectilinear enclosure.	DAP/OA 6 120789
SX64SE/57	266000	44800	single ditched rectilinear enclosure with second irregular enclosure adjacent. NB: Mount Folly site.	DAP/OA 1-3 070789
SX64NE/36	267000	49400	oval hse c.500 m E of Yarrowbury. U/v settlement. RAF/CPE/uk/1890 nos 3081-2.	DCC no 58/97-8 Dec 1946
SX64NE/57	269610	48900	incomplete sub-rect ditch enc; linear feature runs SW; on level hilltop; single ditch. DPRFP 1987-8, photo D23.	DAP/CD 8 130784
SX64NE/58	269520	48750	double ditch sub-rect; moderate SE slope, slight ledge; bisected by fence. DPFRP 1987-8, photos D24/25/26.	DAP/CD 8 130784
SX64NE/59	269820	49290	circ single ditch enc; SW slope; spring rises 100 m SW. DPRFP 1987-8, photo D11.	DAP/CD 4A 130784
SX64NE/60	265300	46200	rect single ditch enc; c.60 m x 40 m; SW slope. DPRFP 1991 Q25.	DAP/PF 1-3 270789
SX64NE/189	265700	49200	irreg single ditch end; c.120 m x 60 m; level hilltop; extensive views W and N.	DAP/VL 3234 070792
SX64NE/192	268600	45000	part rect single ditch enc; N-S c45m; on NW slope above Stiddicombe Creek.	DAP/NZ 13-15 120789
SX65SW/70	264400	50600	Butland Farm, Modbury; rect double ditch enc (see Horner 1993).	DAP/VM 00-1 070792
SX65SW/72	260400	54500	rect single ditch enc; c90m long.	DAP/MN 4,5,6 260689
SX65SW/73	260000	54600	circ dark mark c20m diam; stony area of rock outcrops.	DAP/MN 6 260689
SX65SW/78	264800	54500	single ditch enc; c90m x 50m.	DAP/YW 5,6 080895
SX65SE/117	265000	54500	rect double ditch enc; c90m x 50m; probably enclosed Medieval strips; gentle SE slope.	DAP/YW 3,4 080895
SX54NE/56	258800	49100	circ single ditch enc *c* 50m diam. 2 int dark marks. Level area at end of spur between 2 streams.	DAP/VM 7-9 070792
SX74NW/50	274490	46110	double ditch or 2-phase irreg enc; recorded as prehistoric settlement	DAP/CD 10 130784
SX74NW/51	274740	45840	single ditch round enc; diam 40-50m	DAP/CD 12 130784
SX74NW/59	274980	48170	small rect single ditch end *c* 50x30m. Level hilltop.	DAP/OO 3,4 180789
SX74NW/60	274370	47900	E and S sides of rect single ditch enc. Other faint marks adjacent.	DAP/OO 1,2 180789
SX74NW/105	272700	47100	double ditched rect enc. Ext diam *c.* 60 m; entrance gap in SE side. Curved internal feature. Field name 'Borough' to S.	DAP/AAY 11-15 310796
SX75SW/27	273640	50050	rect single ditch enc *c* 60x70m; entrance in NE side.	DAP/Z 12 260684 & DAP/WT 14,15 180794

Table 20 Pot sherds recovered from excavation of two enclosure ditches at Mount Folly, Bigbury on Sea, 2003.

Find number	Trench	Mass (g)	Description	Comments by John Allan, Royal Albert Memorial Museum, Exeter	Comments by Henrietta Quinnell, Exeter University	Comments by Barry Cunliffe, Oxford University
0010	One (F001)	2.849	thin sectioned (original mass 4.576g); Dark fabric with cream outer slip coating.	Iron Age or early Roman	granite derived, South Devon. Similar to Roman South Devon ware but not absolute match. Probably late Iron Age	All sherds date from the third - first centuries BC with the exception of f2006 which is likely to be first century AD.
0015	One (F002)	0.247	fragment; dark fabric	too small to comment	too small to comment	All fabrics similar to those from Brittany.
2006	Two	0.934	small rim; pale 'grey' fabric	Roman Exeter sandy grey ware, 'fortress type'; first or second century AD	Exeter sandy ware; thin rim of upright neck vessel; vertical beaded jar; early Roman	All except 2006 have granitic derived components
2021	Two	1.665	thin sectioned; originally one sherd (mass 2.990g) that broke into four fragments during the thin sectioning process; distinct curved profile	Granitic/granite derived. Late Iron Age	?slate/rock? inclusions;?quartz	Possibly some white rock tempers and other inclusions suggesting this source was further from the granite.
2022	Two	3.005	dark fabric	Late Iron Age; South Devon	no comment	
2023	Two	1.943	three fragments (decorated) found in clump together	Late Iron Age Glastonbury Ware	South west decorated ware	
2036	Two	1.007	dark fabric	Iron Age	no comment	

NB The pottery was also examined by Roger Taylor. His report is presented as Appendix Six.

APPENDIX ONE

Gazetteer of sites identified as possible Iron Age maritime nodes on the English Channel coast.

The sites are presented in east – west order along the coast.

The identified sites have been classified as 'definite', 'probable' and 'potential' coastal nodes depending on the degree of correlation with the physical traits model developed in Chapter Four. 'Definite' sites are known, from established study, to have been used as coastal sites in the Iron Age. 'Probable' sites exhibit the physical traits and have other evidence, such as contemporary imports, to suggest a functioning coastal site. The 'potential' sites match the physical characteristics but to date have not been investigated or have no other evidence to suggest their Iron Age use.

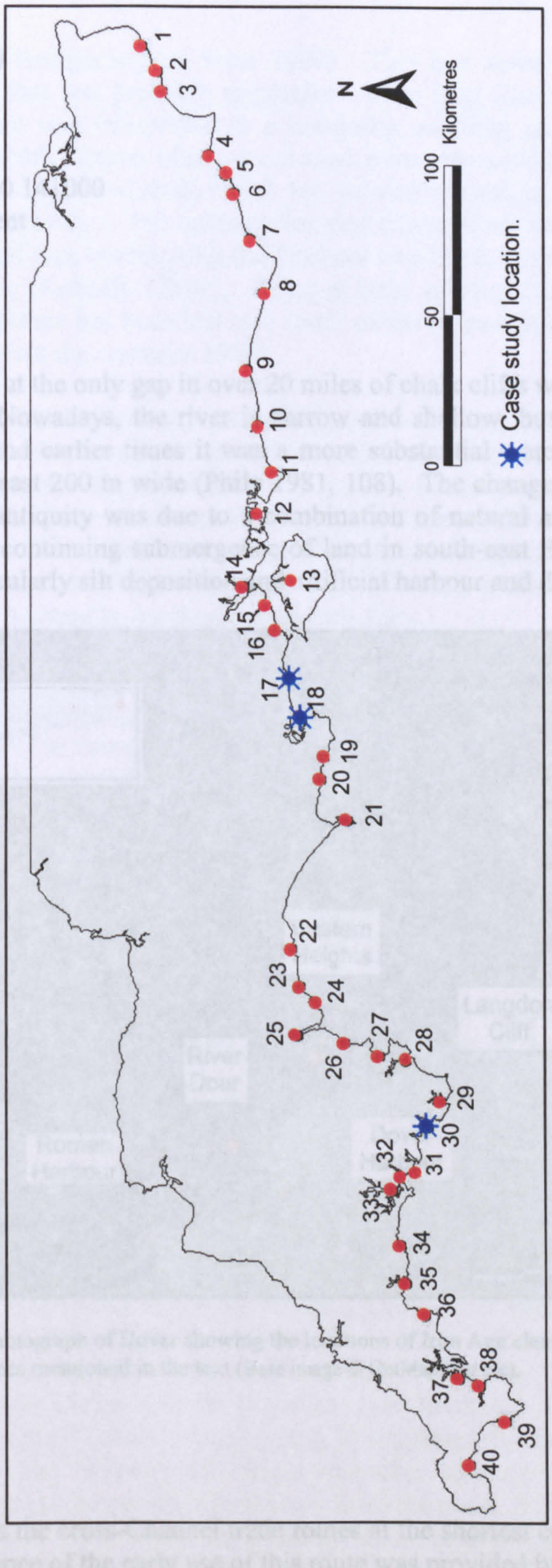
In addition, where sufficient evidence permits, the sites have been ranked as primary, secondary or tertiary (detailed in section 9.4.1 of the main text). The terms relate to the level of interrelation within the maritime network. Primary sites were involved in connections along and across the Channel. Secondary sites participated in the inter-regional network. Tertiary sites were involved in local interactions along the coast and rivers.

40 sites were identified in Chapter Five and the main corpus of data for each site and, where appropriate, its hinterland (defined as within five kilometres of the coastal site) is contained in this gazetteer.

Copy of Table 6 List of 40 sites identified as possible Iron Age coastal nodes on the English Channel coast.

Ref	Site	Easting	Northing	County	Level of proof of node status	Possible complex of sites	assoc HGE
1	Dover	632000	141000	Kent	probable	y	y
2	Folkestone	623210	135950	Kent	potential	y	n
3	Hythe	616500	134150	Kent	potential	n	n
4	Rye Bay	595050	117950	Sussex	potential	y	n
5	Fairlight	588200	112100	Sussex	potential	n	n
6	Hastings	582050	109450	Sussex	probable	y	y
7	Pevensey	565900	104000	Sussex	potential	y	n
8	Seaford Bay	548000	99000	Sussex	probable	y	y
9	Shoreham	521600	104850	Sussex	potential	y	y
10	Arun Valley	502800	101000	Sussex	potential	y	n
11	Selsey and Pagham	487000	96500	Sussex	probable	y	n
12	Hayling Island	472500	101500	Hampshire	potential	n	y
13	Isle of Wight	450000	87000	Hampshire	probable	y	y
14	Hamble Common	448000	106250	Hampshire	potential	y	y
15	Beaulieu River	441900	98750	Hampshire	potential	y	y
16	Lymington	433000	95500	Hampshire	potential	n	y
17	Hengistbury Head	417250	90880	Dorset	definite	y	y
18	Poole Harbour	403700	86800	Dorset	probable	y	y
19	Kimmeridge	390600	79000	Dorset	potential	n	n
20	Bindon Hill	382900	80300	Dorset	probable	n	y
21	Portland	369000	71000	Dorset	probable	y	y
22	Seaton	325650	89820	Devon	probable	y	y
23	Sidmouth	312900	87400	Devon	potential	y	y
24	Otterton	307650	81950	Devon	potential	n	y
25	Topsham	296400	88200	Devon	probable	y	y
26	Teignmouth	294000	72230	Devon	potential	n	n
27	Tor Bay	289600	60240	Devon	potential	y	y
28	Dartmouth	287900	51300	Devon	potential	y	y
29	Kingsbridge Estuary	274100	39200	Devon	potential	y	y
30	Bigbury Bay	265600	43900	Devon	potential	y	y
31	Wembury Bay	250100	48250	Devon	potential	y	n
32	Mount Batten	248650	53250	Devon	definite	n	y
33	Tamar Estuary	244000	56000	Cornwall	probable	y	n
34	Looe Bay	225700	53300	Cornwall	potential	y	y
35	Fowey	212300	51300	Cornwall	probable	y	y
36	Mevagissey Bay	201700	44800	Cornwall	potential	y	y
37	Falmouth	180600	33500	Cornwall	probable	y	y
38	Helford Estuary	178000	26500	Cornwall	probable	y	y
39	Mullion	166100	17600	Cornwall	potential	y	y
40	St Michael's Mount	151500	29800	Cornwall	probable	y	y

	No	%
Potential	23	57.5
Probable	15	37.5
Definite	2	5.0



Copy of Figure 76: Forty locations identified as Iron Age coastal nodes on the south coast of Britain. (Numbers refer to site numbers in the text - see Table 6)

Dover (Site 1)

Location

OS NGR: 632000 141000
Dover parish, Kent

Physical setting

Dover is located at the only gap in over 20 miles of chalk cliffs where the river Dour meets the sea. Nowadays, the river is narrow and shallow, but evidence suggests that in Roman and earlier times it was a more substantial water way with a wide tidal estuary at least 200 m wide (Philp 1981, 108). The change in the character of the Dour since antiquity was due to a combination of natural and artificial factors that include the continuing submergence of land in south-east Britain (see Chapter Three) and particularly silt deposition and artificial harbour and drainage works.

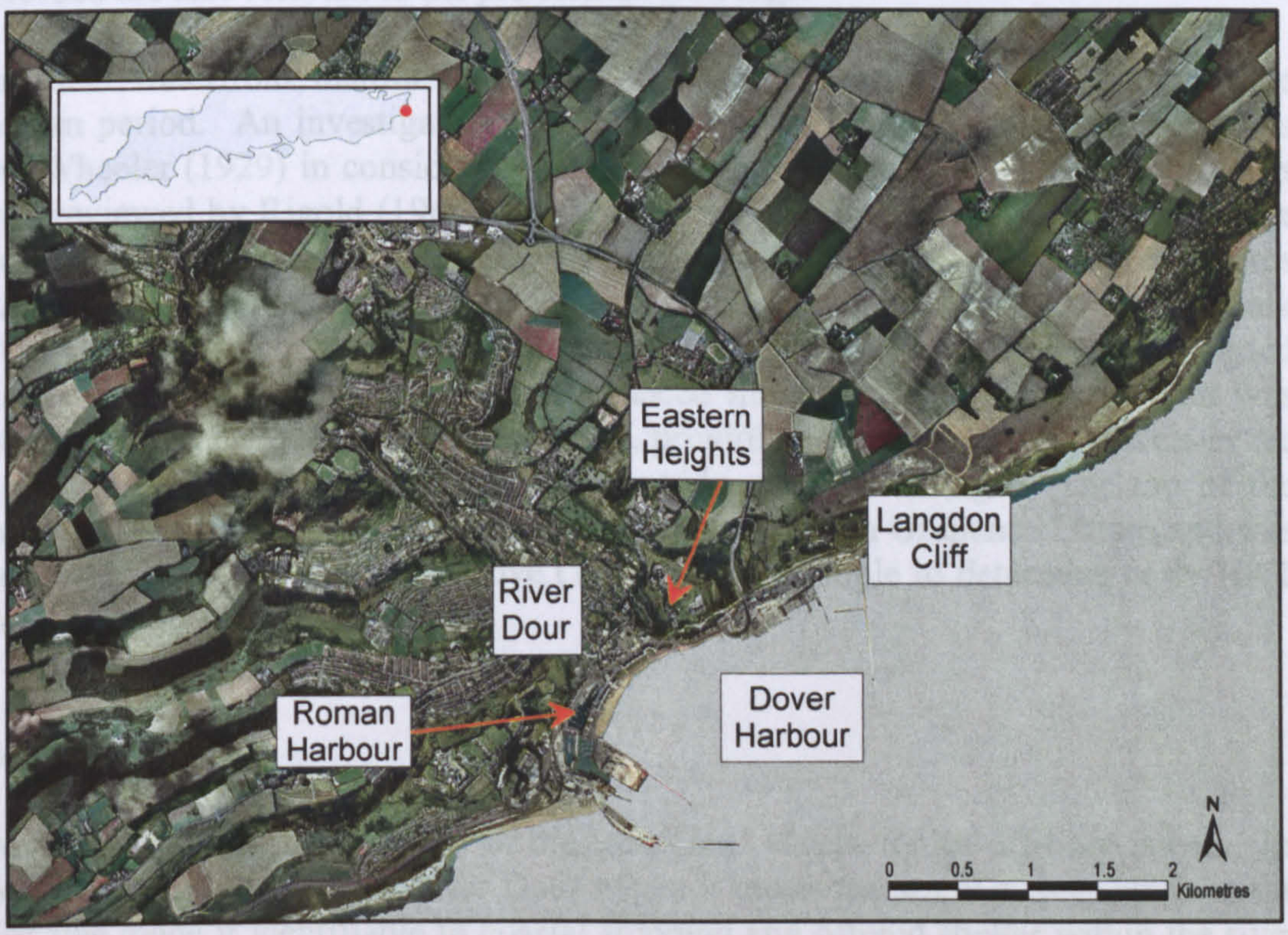


Figure 78: Aerial photograph of Dover showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Dover dominates the cross-Channel trade routes at the shortest crossing point across the Strait. Evidence of the early use of this route was provided by the find of Bronze Age metalwork off Langdon Cliff that was interpreted as the cargo from a wreck (Coombs 1976; Muckelroy 1980; 1981). Other evidence of Bronze Age use of the coast was provided by the find, in 1992, of the 'Dover boat' (Parfitt and Fenwick

1993; Canterbury Archaeological Trust 2000). This is a sewn plank boat of oak with yew withies that was probably originally *c.*12 m long (*ibid*). It was found on the river Dour, but was interpreted as a sea-going coasting, and possibly across-Channel, vessel (*ibid*). Traces of non-local sand were recovered from the bottom of the boat with a small piece of shale which was proved by analysis to have originated at Kimmeridge in Dorset, *c.* 160 miles to the west (Canterbury Archaeological Trust 2000). On the cliff top, overlooking the Channel and Dour, is the Iron Age hillfort of Eastern Heights (KeSMR 17899). There is little information known about this site and much evidence has been lost as a result of the extensive building works that have taken place over the centuries (*ibid*).

The Dour, its surrounding marshy areas and inner basin are discussed in detail by Rigold (1969), who drew on the observations of John Leland (*Itinerary c.* 1538, first published 1710-12; see Chandler 1993) to inform his interpretation of his own excavations. As the Dour is now canalised, Rigold's observations are invaluable for the demonstration of the course and nature of the river and harbour areas in the past. Although he concentrated on the (mainly early) Roman period, the observations recorded are also relevant to the pre-Roman Iron Age.

Artificial waterfront facilities are known at Dover from at least as early as the Roman period. An investigation of some of the features was conducted by Amos and Wheeler (1929) in consideration of evidence for a Saxon Shore fort. This was later reviewed by Rigold (1969) who argued convincingly for an early Roman date for the waterside facilities (Figure 14). Of particular interest were the features numbered 3, 4, 8 and 9 – a timber jetty, a log boat recorded near the mole, a chalk block quay, and a chalk block and timber jetty (Rigold 1969, 82-3). Rigold recorded feature 3 as a "timber-faced and timber-laced mole, filled with shingle" that was interpreted as an early Roman breakwater, providing a safe haven for vessels in the inner basin. It was *c.*30 m long, 4.5 m wide, and 1.4 m high. The top of the structure was on approximately the same level as Newlyn Ordnance Datum and was used by Waddelove and Waddelove (1990) as an example to determine early HAT (see Chapter Five).

Comments

Dover exhibits all the elements of the 'complex' except for an offshore island. Its location on the shore of the river Dour where it meets the sea at a clear break in the cliff line made it identifiable to coastal shipping and offered shelter within the river estuary. The river-name 'Dour' is derived from the British *Dobrā* which in turn derived from *Dubrā*, the plural of 'water' (Ekwall 1960, 149). The similarity with the Roman name for Dover, *Dubris*, is evident (see Rivet and Smith 1979, 341-2). The antiquity of use of the area for shipping is suggested by the Bronze Age boat and metalwork found offshore that might represent wreck cargo. The river and nearby trackway provided access inland away from the coast. Iron Age occupation is suggested by the hillfort overlooking the coast and Channel approaches at Eastern Heights. Extensive use of *Dubris* as an early Roman port further suggests that the area was suitable for use by shipping.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
1	Dover	x		x	x	x	x	x	x		x		x			1

Conclusion

'Probable' site.

Folkestone (Site 2)

Location

OS NGR: 623210 135950
Folkestone District, Kent

Physical setting

Folkestone is sited in a low river basin with the English Channel to the south and east and the steeply rising scarp of the North Downs to the north. To the west the land undulates, locally rising to *c*.80 m OD, with a length of a few hundred metres of beach cliffs that fringe the coastline. As at Dover, Folkestone is sited at the mouth of a river (not named but known locally as 'Harbour Water'), which is now little more than a stream leading back into the chalk zone. The river meets the sea at a convex curve in the coastline between the rocky outcrops of Mill Point and Copt Point.

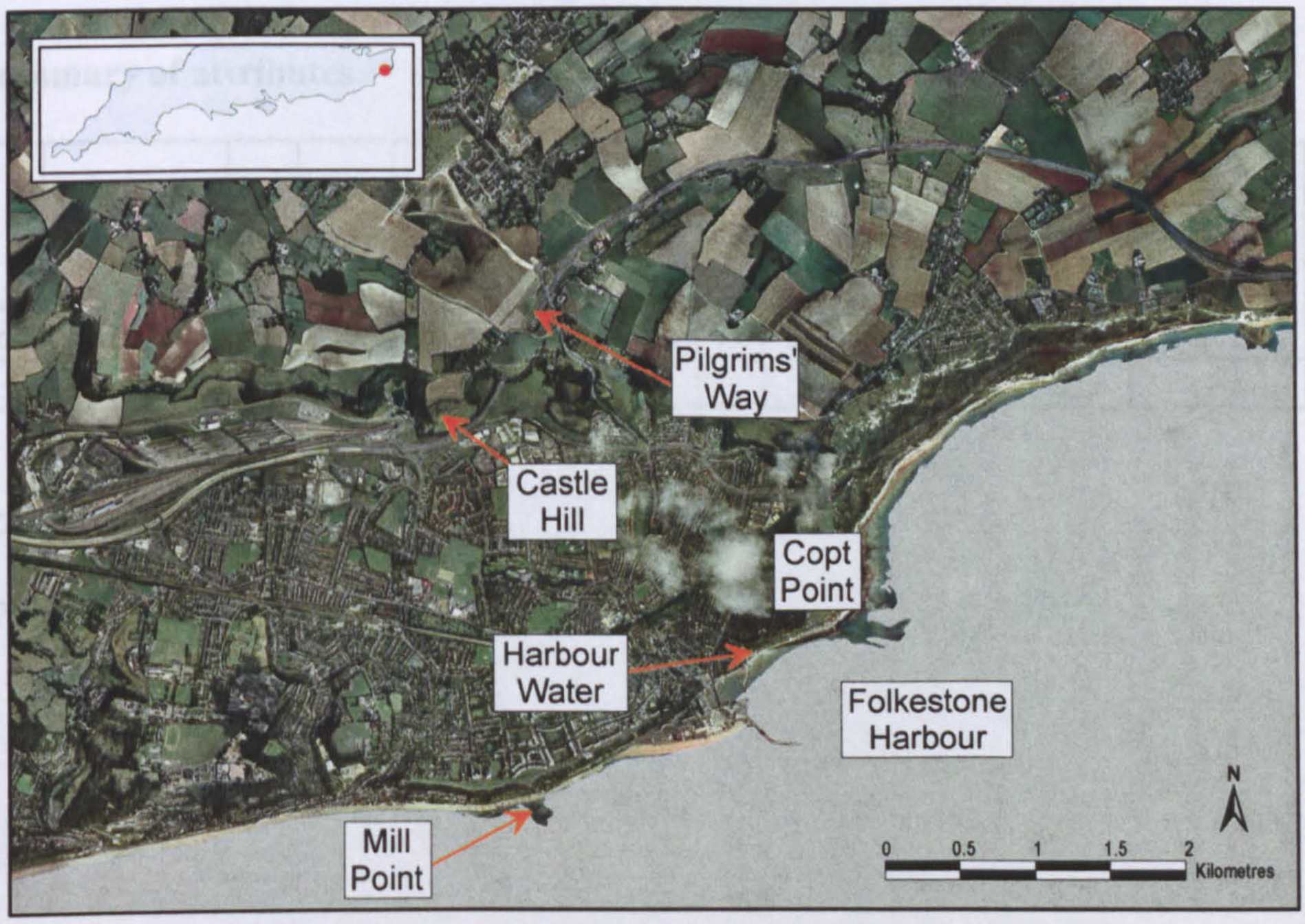


Figure 79: Aerial photograph of Folkestone showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

An occupation site attributed to Belgic and Romano-British activity was located near the top of a slope overlooking Copt Point (KeSMR 5675); finds from there included a La Tène III brooch and Iron Age gold coin (KeSMR 5693 and 5694), as

well as Iron Age pottery recovered from a pit (KeSMR 5674). Copt Point later became the site of a Roman-British villa, illustrating the continuity of use of a physically advantageous site.

In 1998, a watching brief for the Folkestone waste water scheme recorded a timber quayside of oak piles and planks at the back of the present harbour (KeSMR 17963). As yet it remains undated.

Comments

The distribution of Bronze Age, Iron Age and Roman finds recorded on the Kent SMR suggests that the main activity was located near Copt Point. The coast in this area contains several points that are suitable for beaching vessels, including sand coves in the immediate vicinity of Folkestone. However, it is the riverine access inland that suggests a possible interpretation as a coastal node for the purposes of this study. Many Iron Age gold and silver coins have been recovered from the beach between Mill Point and the river mouth. The topographic situation, matching the physical criteria identified in Chapter Three, together with the known sites and finds, suggest the coastal area of Folkestone was a suitable node location.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
2	Folkestone	x			x	x	x						x		x	3

Conclusion

'Potential' site.

Hythe (Site 3)

Location and plan

OS NGR: 616500 134150
Hythe parish, Kent

Physical setting

Hythe is an area of firm strong beaches and flat lands that run for up to a kilometre back to 'The Roughs', a rising ridge that runs east – west at heights of up to *c.*100 m OD. Nowadays, Hythe is sheltered to the west by Romney marsh and Dungeness, but prior to reclamation schemes in those areas in the nineteenth century, it would have been rather more open. However, in the medieval period, Hythe operated a river-fed natural harbour that had a narrow coastal entrance providing shelter for boats within.

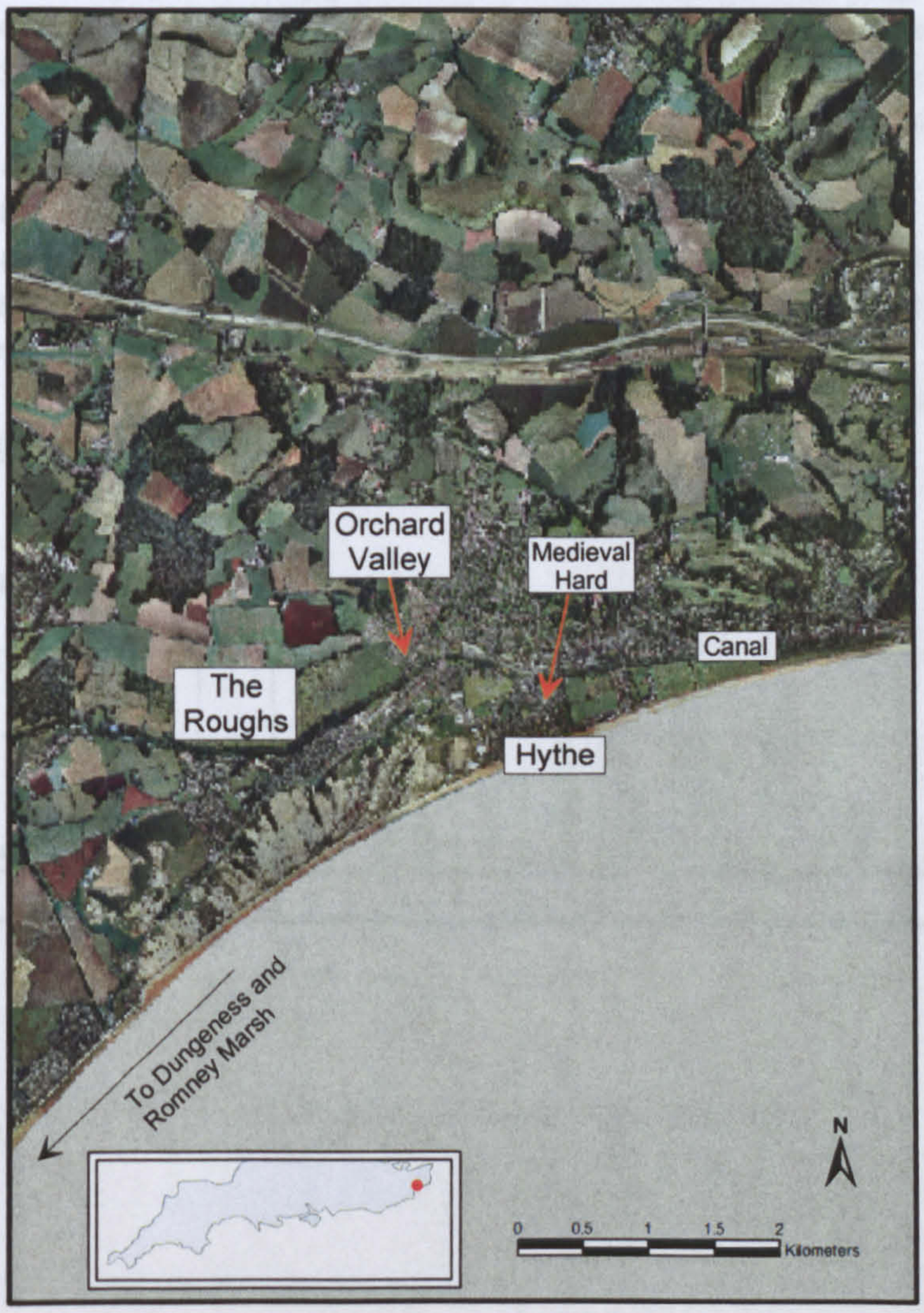


Figure 80: Aerial photograph of Hythe showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Iron Age sites (occupation and settlement areas) have been recorded at Orchard Valley, at the base of the slope of The Roughs near to Brockhill Stream (that now feeds into the canalised river and near the route of a former Roman road) (KeSMR 4315).

Two bronze axes and two Iron Age coins were found on the beach at Hythe (KeSMR 4319 and KeSMR 4304). Belgic pottery has been found near the original course of the river (KeSMR 4227).

A medieval hard for beaching boats was constructed within the shelter of the river on its approach to the beach (KeSMR 17138).

Comments

Although the former topography of the coast is not known in this area, the medieval harbour and beaching points suggest how the river and beach might have been approached and used by earlier shipping. The name 'Hythe' is an old Saxon/English place name which translates as 'landing place' (Ekwall 1960, 260). Gelling (1984) provides more detail of the original *hȳth*, translating it as "landing-place on a river, inland port" (*ibid*, 76); of Hythe she states that although on the coast, the landing-place may have been "a short distance inland, on nearby rivers" (*ibid*). The rarity of the word *hȳth* as a place-name suggests it relates to a "noteworthy feature" so "is of some significance for regional history" (*ibid*, 62). The place-name evidence strongly suggests that pre-medieval shipping made use of the shelter of the river and harbour areas. Iron Age use of the area is suggested by the finds recorded on the SMR including imported pottery.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
3	Hythe	?			x	?	?				x				xx	

Conclusion

'Potential' site.

Rye Bay (Site 4)

Location

OS NGR: 595050 117950
Icklesham, Rye and Camber parishes, Sussex

Physical setting

From Camber Sands, the shore of Rye Bay curves gently over 10 km towards the south-west to Fairlight and Hastings. The area has been changed by canalisation, drainage and reclamation schemes. During prehistory, Rye was a small, round island in a lagoon (Morey 1966, 18) but now it stands inland surrounded by reclaimed land, *c.* 3.5 km from the coast (Jessop 1970, 19). Rye Harbour and Winchelsea Beach are now land-locked bodies of water that were formerly spacious harbours and landing points (Morey 1966, 29). The rivers Rother and Brede meet at the east of Rye and follow a now canalised route to the coast. The shore is sheltered by the sweep of the bay and characterised by wide, sandy beaches.

Archaeology

Hastings was developed as a Saxon town built as a seaport so evidence of any earlier activity was probably destroyed at that time (Williamson 1959, 69). The prehistoric Rye-Uckfield ridgeway runs close to the town (SuSMR 402393).

Comments

There is currently no accurate reconstruction of the landscape and layout of rivers and the coast for this area in the Iron Age. However, recent work by Andrew Woodcock (2003) and comparisons with other periods suggest this area of the coast had sheltered, sandy beaches with natural harbour or mooring areas at or near the mouths of the rivers that provided good access routes inland.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
4	Rye Bay	x			x	?	?			?						

Figure 81: Aerial photograph of Rye showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Conclusion

'Potential' site.

Fairlight (Site 5)

Location

OS NGR: 588200 112100
Fairlight parish, Sussex

Physical setting

Fairlight Cove lies at the western end of the sand and mud beach which runs south-west from Pett Level. The Cove is backed by a cliff which rises steeply to over 60 mOD. The western edge of the cove is marked by rock ledges. At the eastern end is the flat-topped hill of Fairlight (*c*.50 mOD). The area is sheltered to the west by the sweep of the shore.

Figure 82: Aerial photograph of Fairlight showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

A late Bronze Age spearhead was recovered from the shore near Pett, *c.*15.25 m (*c.*50 feet) below HWM (KeSMR 969494; Manwaring Baines 1973). Late Iron Age pottery was found by a spring at the beach at Cliff End (SuSMR 969385). Other finds from the area may be associated with a possible Iron Age building at Fairlight Quarry, Covehurst Bay (SuSMR 968487), *c.*2.5 km further west along the coast. A trackway, considered to be prehistoric (SuSMR 1043189) runs north-westwards inland for *c.* 20 km to Netherfield. Roman coins and pottery have been recovered from along the route of the trackway (*ibid*).

Comments

The beach at Fairlight Cove is sheltered from the west and suitable for beaching vessels. Immediately behind the shore, the high ground of Fairlight provides a useful landmark for vessels at sea. Although there is no river running into this area, inland access is provided by the trackway which runs away from the coast. These characteristics match the physical traits identified in the nodal model and finds suggest the area was used during the Iron Age.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
5	Fairlight		?	x	x	?	x								x	3

Conclusion

'Potential' site

Hastings (Site 6)

Location and plan

OS NGR: 582050 109450
Hastings District, Sussex

Physical setting

The modern beach at Hastings is maintained by artificial deposits of sand removed from elsewhere along the coast. The natural state of the coast can be seen to the east and west of the town where the beaches are of mud and stone, making them firm and useful for beaching vessels. Behind the beach the land generally rises gently to the north, but there are areas of steep cliff at Castle Hill at the end of West Hill promontory, and East Hill where the cliff top reaches 100 mOD.

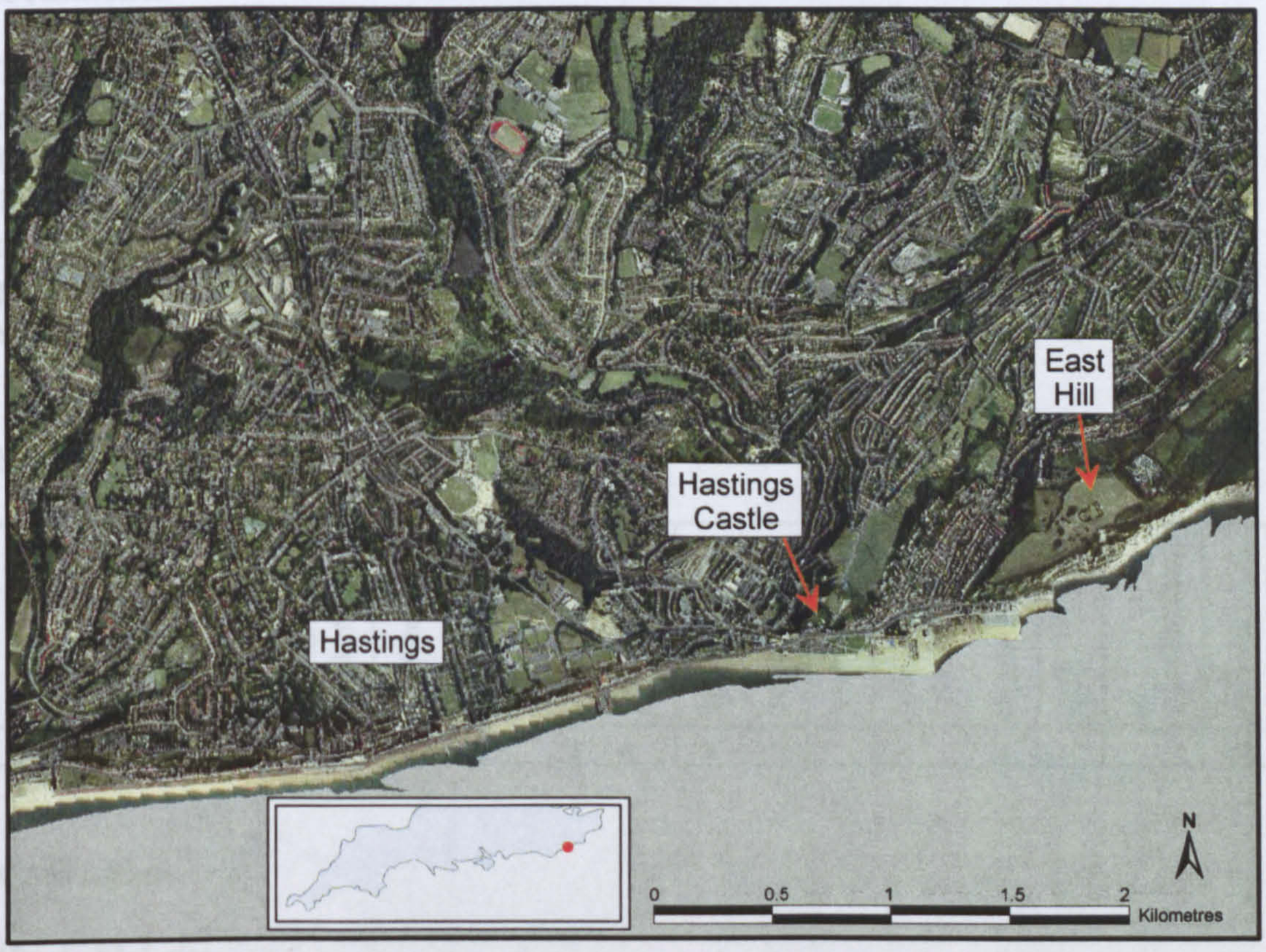


Figure 83: Aerial photograph of Hastings showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

East Hill: a mainly univallate bank and ditch isolate a spur of *c.*14 ha on the coast (Hogg 1975, 203-4). Hogg considered it an "important promontory fort which has received less attention than it deserves" (*ibid*, 203). He suggested the site was of

particular significance due to its similarities with French earthworks, particularly Fécamp type. The Fécamp classification was established by Wheeler and Richardson (1957) based on the characteristics of the Camp du Canada at Fécamp. This type was distributed mainly in the Somme-Seine area (*ibid*, 12) and was recognised as "(a) a preference for commanding promontories, which are cut off by a huge rampart, 20-30 ft. high, and a broad, flat, or bluntly rounded, canal-like ditch, with steep external side sometimes reinforced by a small counterscarp bank; and (b) formidable entrances often flanked by bold in-turns of the main rampart" (*ibid*, 11). East Hill matches criterion 'a' but due to erosion of the southern portion, the entrance and any in-turn is not known.

Hastings Castle settlement: beneath the Norman outer bailey, excavation revealed an Iron Age earthwork (Barker and Barton 1968). The position and extent of the earthwork led to the suggestion that the entire promontory was occupied in the Iron Age (*ibid*).

Comments

The shore at Hastings faces south-east to the English Channel. The area is distinguished by two Iron Age promontory sites within a kilometre of each other, East Hill hillfort (Hogg 1975) and Hastings Castle Iron Age site (Barker and Baxter 1965). Although the area does not have riverine access inland, the coast was highly accessible to Iron Age shipping with sheltered beaching points beneath both of the promontory sites. The two sites, with continental imports and the location on the south-east facing coast suggest this area as a 'probable' coastal node.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
6	Hastings		x	x	x		x	x	?			x	x		xx	

Conclusion

'Probable' site

Pevensey Bay (Site 7)

Location

OS NGR: 565900 104000
Westham and Pevensey parishes, East Sussex

Physical setting

The area defined as Pevensey Bay runs west from Pevensey *c.*12 km to the prominent point of Beachy Head. The bay has no offshore obstructions or hazards and, approached from the Channel, the area is clearly distinguished by the cliffs of Beachy Head[55] that contrast with the flat lands of the levels around Pevensey. The east of the area has been changed by drainage schemes and reclamation to the extent that the Roman coastal fort of *Anderitum* at Pevensey now lies *c.*1.5 km from the coast. The bay area was formerly a wide, tidal basin that stretched *c.* four miles inland (Williamson 1959, 54).

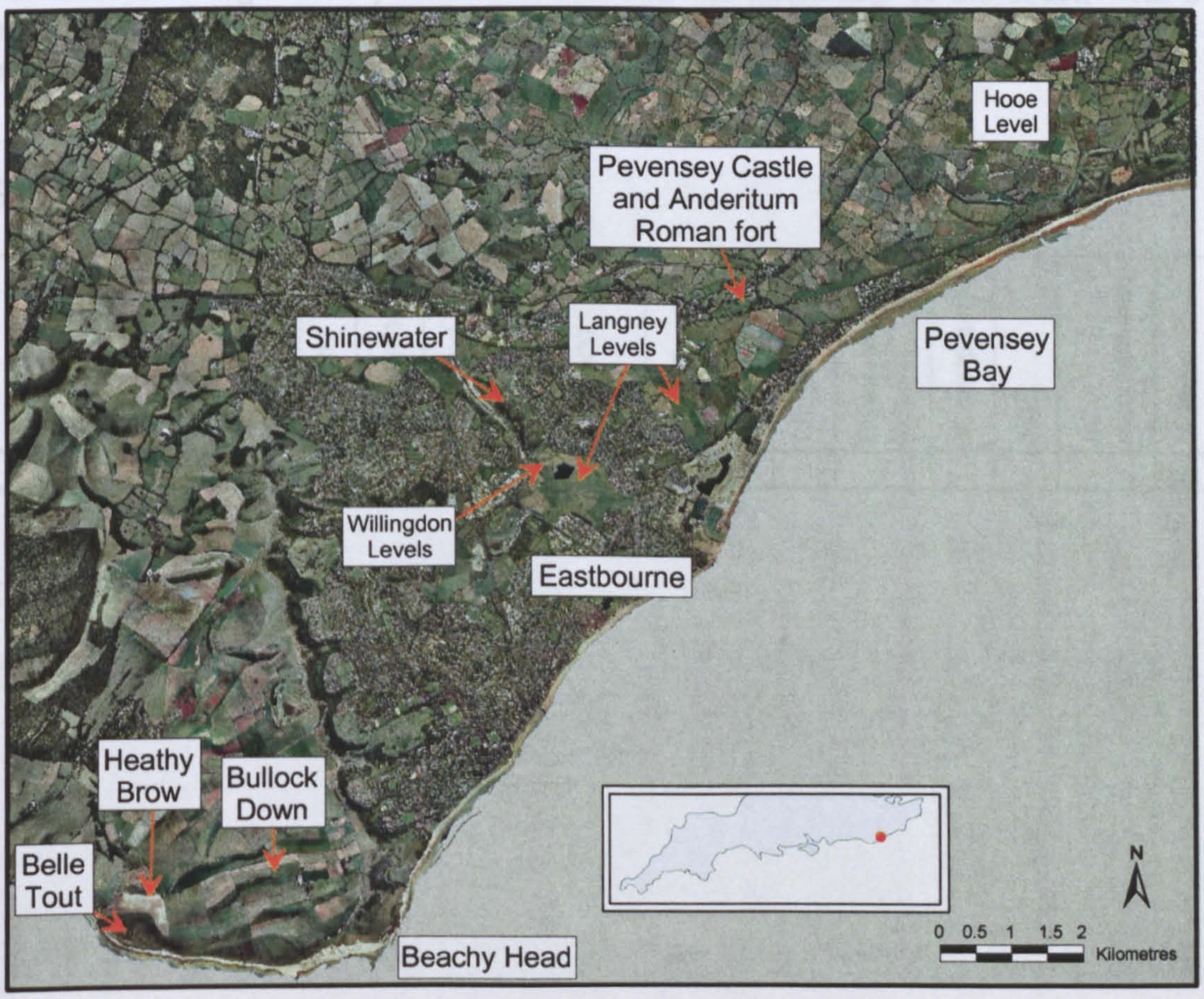


Figure 84: Aerial photograph of Pevensey Bay showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

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[55] Beachy Head rises sheer from the narrow beach to *c.*164 mOD and is the most southern point in the visually dramatic line of chalk cliffs that run south-east from Cuckmere Haven.

Archaeology

Finds from the area include a looped and winged bronze axe, four gold bracelets, and a Carp's Tongue sword hilt (*c.* seventh century BC) found on the beach in 1806 after a cliff fall at Beachy Head (Jessop 1970, 135), and Gallo-Belgic gold quarter staters were more recently recovered from Eastbourne beach (SuSMR 619020 and SuSMR 619013; Rudling 1984). Of particular interest to this study is the Bullock Down Iron Age settlement and track way behind Beachy Head, with the hillfort site of Belle Tout nearby (Bradley 1971a; and see Russell 1997 for detail and further references regarding Belle Tout). A Bronze Age round barrow at Beachy Head contained Kimmeridge shale, and an Early Iron Age settlement, Heathy Brow, located on the very high ground behind Beachy Head also contained a fragment of a shale bracelet (SuSMR 670618). The shale finds are evidence of the along-Channel transport of materials from the central to south-east sector.

Comments

The combination of finds, sites and suitable topographic characteristics suggests extensive Iron Age activity in the littoral area and hinterland of the coast, with a possible nodal focus in the sheltered area of Eastbourne where boat-landing was possible.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
7	Pevensey		x	x	x		x						x		xx	

Conclusion

'Potential' site

Seaford Bay (Site 8)

Location and plan

OS NGR: 548000 099000
The bay covers the area between and including Newhaven and Cuckmere Haven.
Newhaven, Seaford, and Cuckmere Valley parishes, West Sussex

Physical setting

The west of the bay is marked by South Hill and Cuckmere Haven. The haven is the mouth of the Cuckmere River which rises at Foul Mile and flows *c*.35 km to the sea. To the west of the Haven, the land rises gradually to Seaford Head and then falls away to a flat plain east of Newhaven.

At the east of the bay, the river Ouse flows over 30 km from the Wealden district to the English Channel at Newhaven. The river's route rises gently away from the shore, but is fringed by steeply rising hills that exceed 155 mOD at Itford Hill, the site of a Bronze Age settlement *c*. five kilometres from the coast. The mouth of the river is marked by flat land to the east and a steep knoll, Castle Hill, to the west.

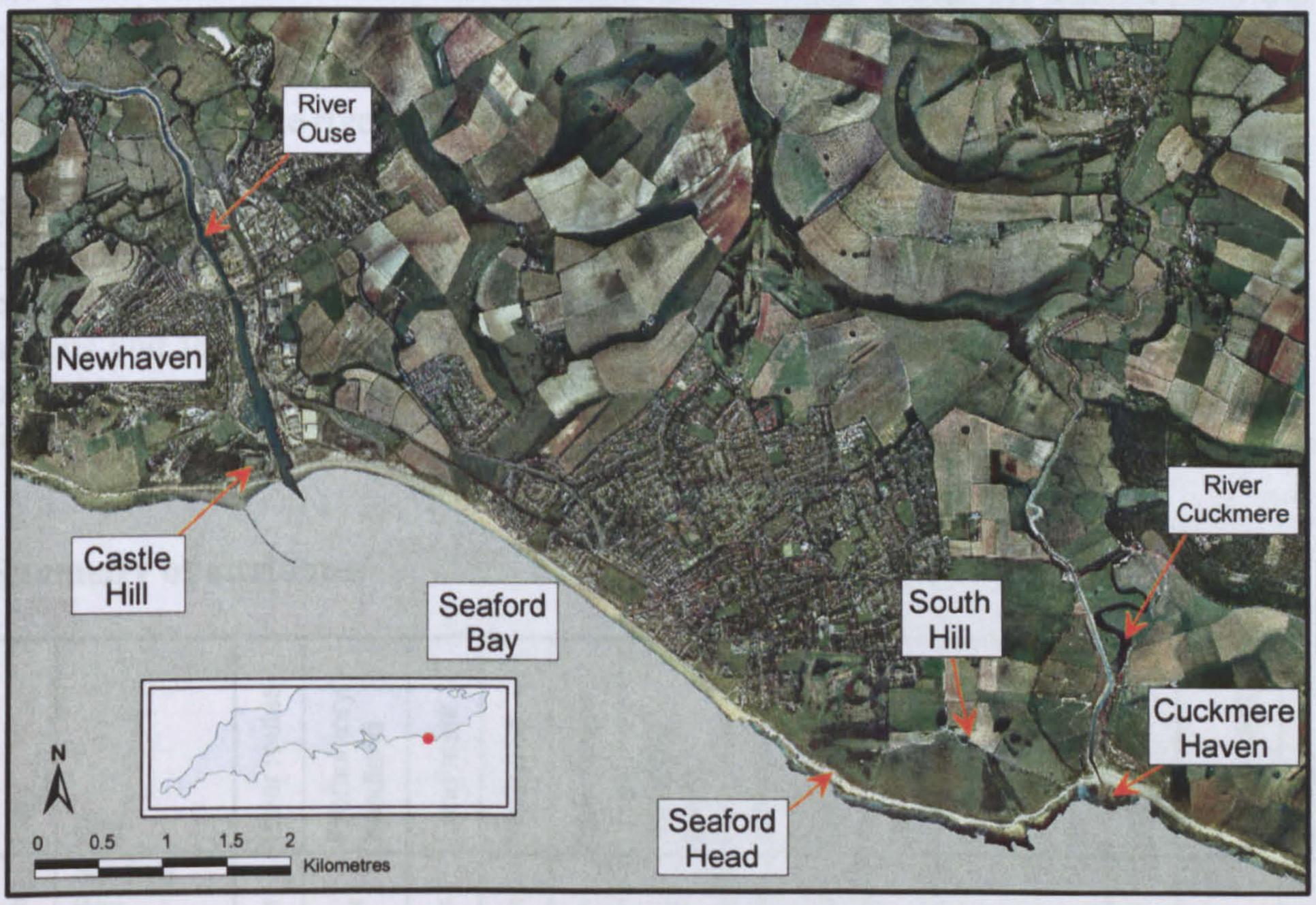

Figure 85: Aerial photograph of Seaford Bay showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Newhaven promontory fort: Bronze Age, Iron Age, and Romano-British use of Castle Hill (SuSMR 406342). Iron Age and Roman coins have been found at the site (SuSMR 406240).

A set of six tools, a winged, socketed axe, two socketed gouges, a tanged chisel, an awl, and a knife (all bronze) were found at Newhaven and may have belonged to a carpenter (Jessop 1970, 133).

Iron Age quarter staters imported from the continent and the territory of the Durotriges were recovered from Seaford (SuSMR 469836; SuSMR 4698370; SuSMR 469838). These suggest links across and along the Channel.

Iron Age gold armlets have been found on the beaches at Cuckmere Haven, Eastbourne and Selsey (Jessop 1970, 135-6).

Comments

The mouth of the river Ouse is dominated by Castle Hill. The continuous occupation of the promontory from the Bronze Age to the Romano-British period confirms the suitability of the site for occupation and highlights the importance of the point where the river, with extensive inland reach, meets the Channel and the coasting routes. The main elements of the site were unfortunately destroyed by erosion and later use. This provides an excellent location to monitor and possibly control access to the river and inland routes.

Similarly important is the position of Seaford Head hillfort, overlooking the bay and Channel approaches to both the Ouse and Cuckmere. The inland access afforded by both rivers, combined with ease of approach from the coasting routes to the safe havens and the location of the 'hillforts' and Iron Age finds suggest that the area probably served as a coastal node, although it is not currently possible to define the focus of that node.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
8	Seaford Bay	x	x	x	x	x	x	?	?		x		x		xx	2

Conclusion

'Probable' site

Shoreham (Site 9)

Location

OS NGR: 521600 104850
Adur District, Sussex

Physical setting

Shoreham lies on the flat, sandy coast where the river Adur meets the sea after flowing more than 25 km from its source near Twineham. Two kilometres north of the Shoreham coast the land rises on either side of the Adur to Lancing Hill in the west (81 mOD) and Mill Hill (104 mOD) then Beeding Hill (169 mOD) to the east.

The river carries a large amount of silt that is deposited near its mouth at Shoreham Harbour. Nowadays, the harbour is regularly dredged to maintain an adequate depth of water.

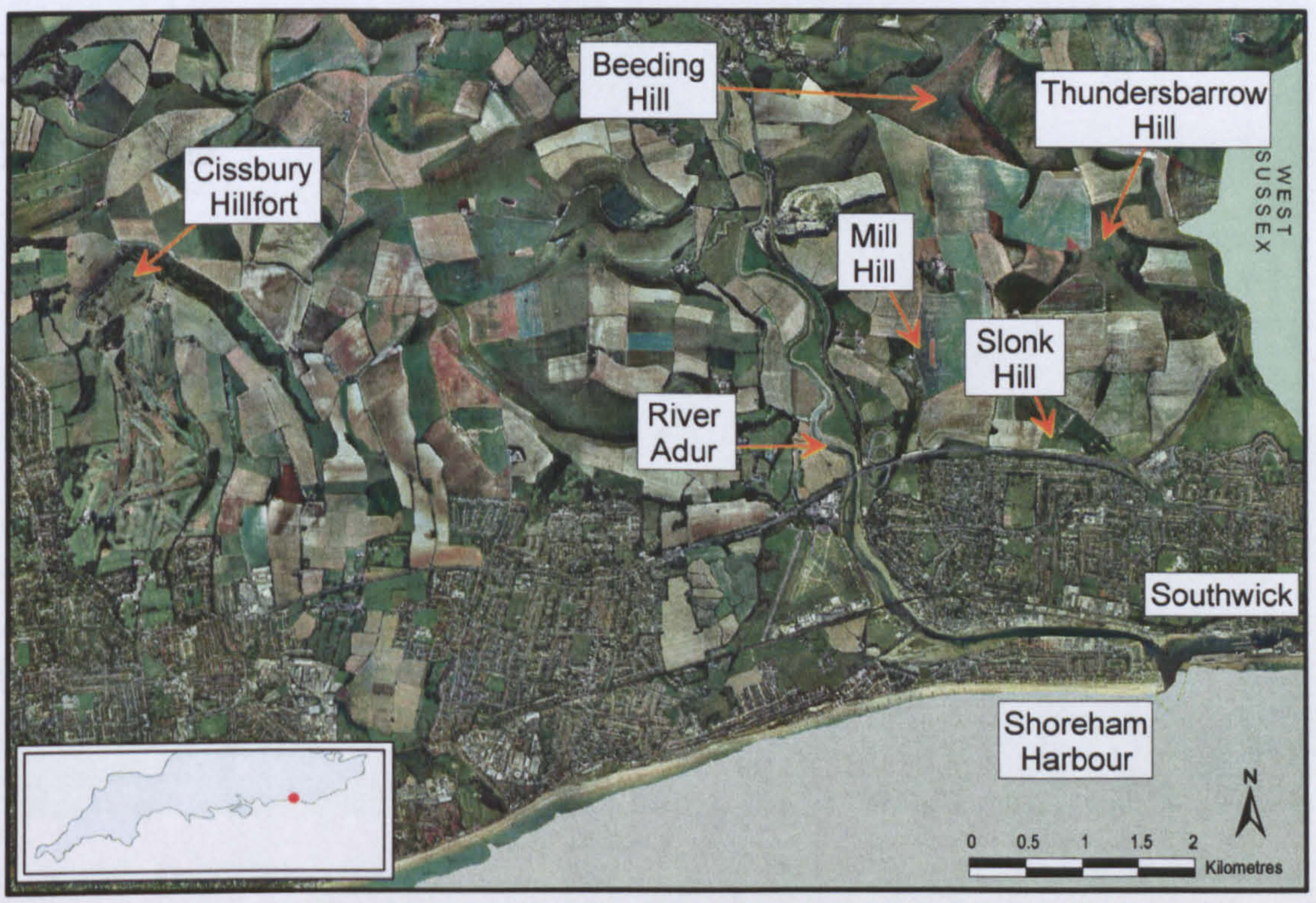

Figure 86: Aerial photograph of Shoreham showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Imported Iron Age material has been found at Cissbury univallate hillfort which lies *c.* 8.5km north-west of Shoreham Harbour. A similar Iron Age settlement has been recorded on Thundersbarrow Hill, three kilometres north of the harbour (NMR 911108). Other Iron Age habitation evidence was uncovered on Mill Hill (NMR

626090) and at Slonk Hill (NMR 626089). At Southwick, excavation of a Roman villa revealed evidence of an earlier, Iron Age, hut (NMR 626098).

Comments

The sheltered beaches, nearby hillfort and extensive riverine access suggest the area of Shoreham as a 'potential' coastal node, suitable for use by Iron Age vessels.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
9	Shoreham	x			x	x	x		x		x		x			

Conclusion

'Potential' site

Lower Arun Valley (Site 10)

Location

OS NGR: 502800 101000 (mouth of river Arun at Littlehampton)
Littlehampton, Lyminster, and Arundel parishes, West Sussex

Physical setting

The rivers Arun and Rother merge at Pulborough to flow over 35 km on a meandering route to the sea at Littlehampton. The wide, shallow flood plain is flat and low-lying. Prior to the embankment works, this was a wide, tidal estuary (Williamson 1959, 97). The mouth of the river was formerly a miniature delta of channels running through the beach sands (*ibid*, 269).

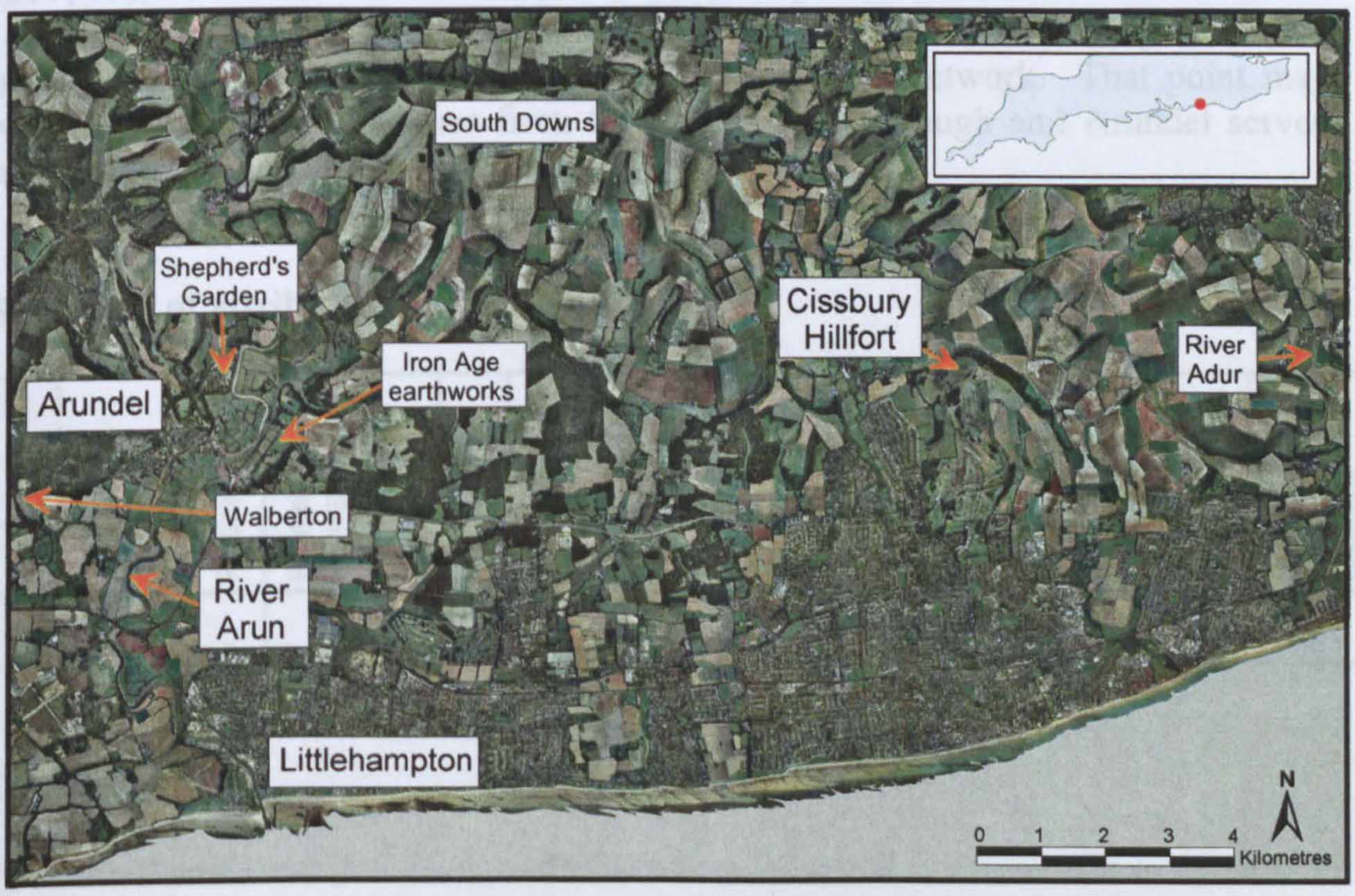

Figure 87: Aerial photograph of the lower Arun valley showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Cissbury hillfort is located *c.* 10 km to the east of Arundel, between the rivers Arun and Adur. Iron Age imports and settlement evidence have been recovered from within the hillfort area. The river Arun was a focus for prehistoric activity. A small round univallate earthwork sits on a slight rise to the east of the river at Arundel (undated), and to the west ditches and earthworks dated to the Iron Age have been recorded at Walberton (NMR 1313989) and Shepherd's Garden in Arundel Park

(NMR 919041). Undated log boats have been recovered from the Arun valley (Jessop 1970, 51).

Comments

The river Arun was named *Trisanto* by Ptolemy (Geography II 3.3; 12-13) and has been suggested as a British river name suggesting flooding or strong movement (Rivet and Smith 1979, 477). It was one of seven *Trisantona* rivers studied by Bryony Coles (1994; see also Chapter Three). She proposed the river was an ancient route and, as such, could well have been known and used in the Iron Age. It has been suggested that the main focus of port activity would have been up river, not on the coast (B Cunliffe pers. comm.; C Wells pers. comm.) and that Pulborough saw river traffic in the Bronze Age – Roman period when a port probably operated there (C Wells pers. comm.). Later evidence for the up river focus comes from Arundel, that used to be the main port serving the local area until Littlehampton was developed and the river route engineered to suit a coastal port there (Williamson 1959, 97).

It is suggested that a node point existed within the lower Arun valley to link the Iron Age riverine network with the south-east coasting network. That point may well have been some distance from the coast, as Pulborough and Arundel served maritime traffic in subsequent periods.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
10	Arun Valley	x			x	x	x				x		x			2

Conclusion

'Potential' site

Selsey and Pagham (site 11)

Location

OS NGR: 487000 096500
Selsey, Sidlesham, and Pagham parishes, West Sussex

Physical setting

The Lavant is a major waterway flowing off the chalk Downs. It has changed course through time but the locations of deposits of freshwater alluvium suggest it used to flow to the sea at Pagham Harbour (Pitts 1979, 69). The date of the change in course is debated, but the earliest date suggested is during the Roman period (Bradley 1971b, 29-30; Cunliffe 1973, 56-7). It is therefore accepted in this study that during the pre-Roman Iron Age the Lavant did flow into the area of Pagham Harbour.

The Selsey/Pagham area is characterised by flat lands, subject to marine flooding, and bordered by the chalk Downs and the Hampshire Basin. Selsey Bill is all that now remains of a drowned peninsula (Jessop 1970, 22), the former extent of which is now marked by the offshore Mixen Rock (beyond the southern edge of Figure 88) (Williamson 1959, 23).

Archaeology

Many late prehistoric objects have been found in the area. Late Bronze Age gold ornaments including armlets (Anon 1926; Jessop 1970, 135-6) and over 300 pre-Roman Iron Age coins have been found on the shore (Jessop 1970, 23) and storms often reveal further material on the beach (Cunliffe 1975, 92). The quantity of coin finds led to speculation that an Iron Age mint was operated at Selsey Bill, the site of which was subsequently eroded or drowned by the encroaching sea (Jessop 1970, 144).

Early Iron Age pottery found on Selsey included Belgic pedestal urns: these are important indicators of the orientation and scale of the area's continental connections as they have not yet been recorded elsewhere in west Sussex (White 1934, 41). Belgic influences are similarly represented by finds of coins of Commius, Tincommius, Verica and Eppillus, many of which were found on the beach. These included a gold coin of Cunobelin and a bronze coin of Cnidos from the second century BC. In addition, extended contacts with the Mediterranean are suggested by Greek vases that were found in east cliff and may have reached Selsey in the early Iron Age (*ibid*).

Hawkes (in White 1934) compared the Iron Age pottery from Selsey with continental examples. He suggested that the Selsey finds were wheel-made pottery (dated to *c*.50 BC – AD 50) and the results of Belgic immigrants blending their technique with the established native traditions. Parallels were identified throughout the central southern sector at Hengistbury Head, St Catherine's Hill (Hampshire), Silchester and Casterley Camp (*ibid*).

The potential significance of the site was enhanced by the suggestion that the Roman road, Stane Street, had a pre-Roman origin and served an Iron Age settlement located in the Selsey plain (Jessop 1970, 168-9). The entire peninsula

was protected by a series of earthwork dykes that were constructed across the gravel terraces; the dykes 'protected' or at least demarcated the area between the Lavant and Bosham Harbour (Bradley 1971b). The Roman developments of Fishbourne and Chichester[56] were built within the northern part of the demarcated territory (Cunliffe 1975, 92-3).

Comments

Evidence of the Iron Age island of Selsey suggests it was the location of manufacturing processes (salt production, coin minting, etc.). It has been suggested (Chapter Four) that coastal nodes were involved in manufacturing, as well as operating coastal facilities within the maritime network. The presence of continental imports on this former island, and its strategic location on the south coast further suggest Selsey as a 'probable' coastal node.

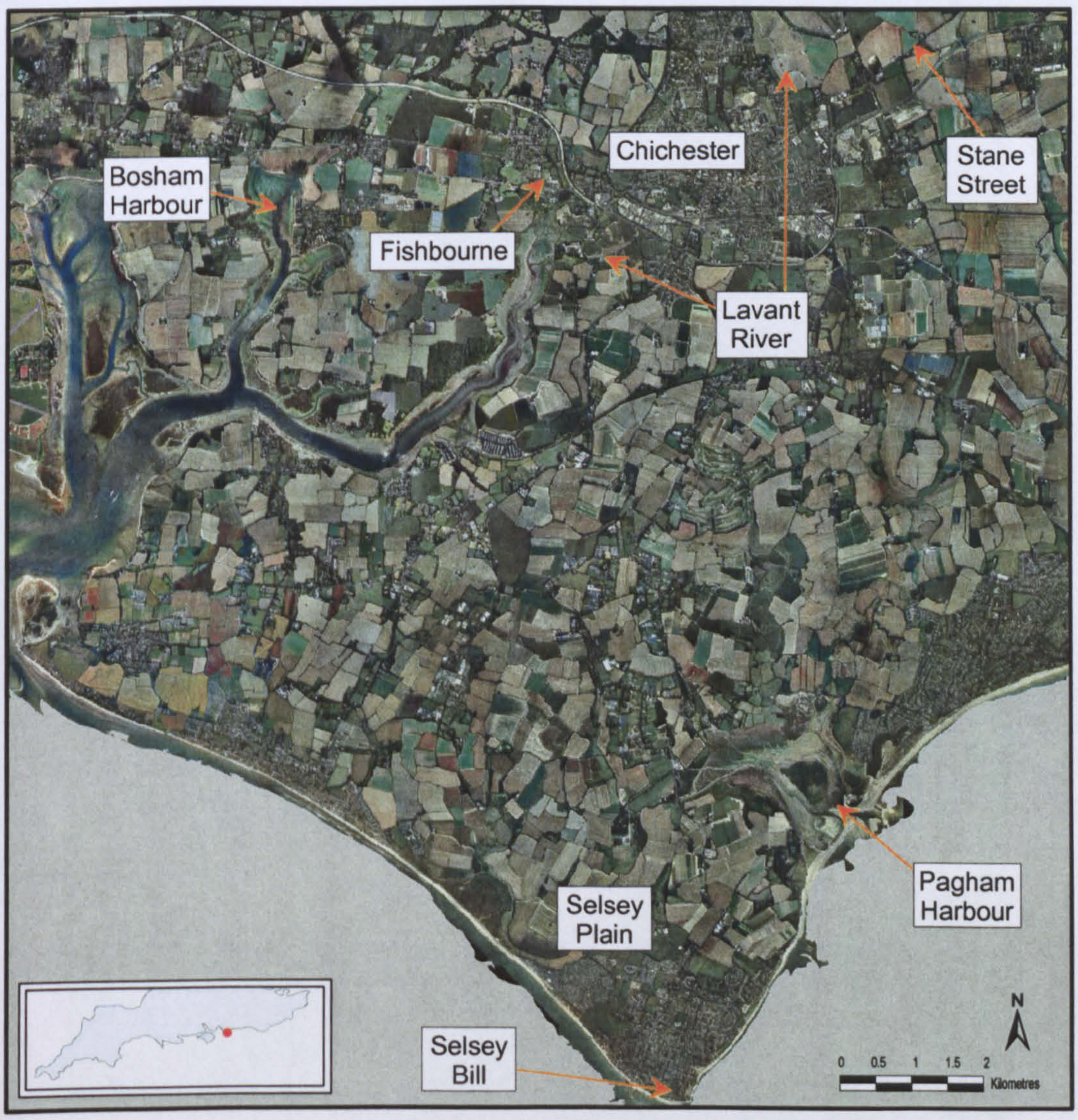

Figure 88: Aerial photograph of Selsey and Pagham showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

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[56] It was suggested that Chichester was occupied when sea-level rise and flooding curtailed the use of Selsey, and that it took over the role and functions of the former island site (Jessop 1970, 179).

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
11	Selsey and Pagham	x	x	x	x	x	x	?	x	x				x	xx	

Conclusion

'Probable' site

Hayling Island (Site 12)

Location

OS NGR: 472500 101500
Havant District, Hampshire

Physical setting

Hayling Island sits between Langstone and Chichester Harbours in the extreme east of Hampshire. It is a low lying landmass of *c.*12,000 ha (above HWM), surrounded on three sides by mudflats and edged by the sandy beach of Hayling Bay in the south. In modern times the island became separated from the mainland by a 600 m expanse of low tide muds. Langstone Channel runs to the west of the island, and Emsworth Channel to the east; both flow into the Solent. The island is generally low-lying, rising to little more than five mOD.

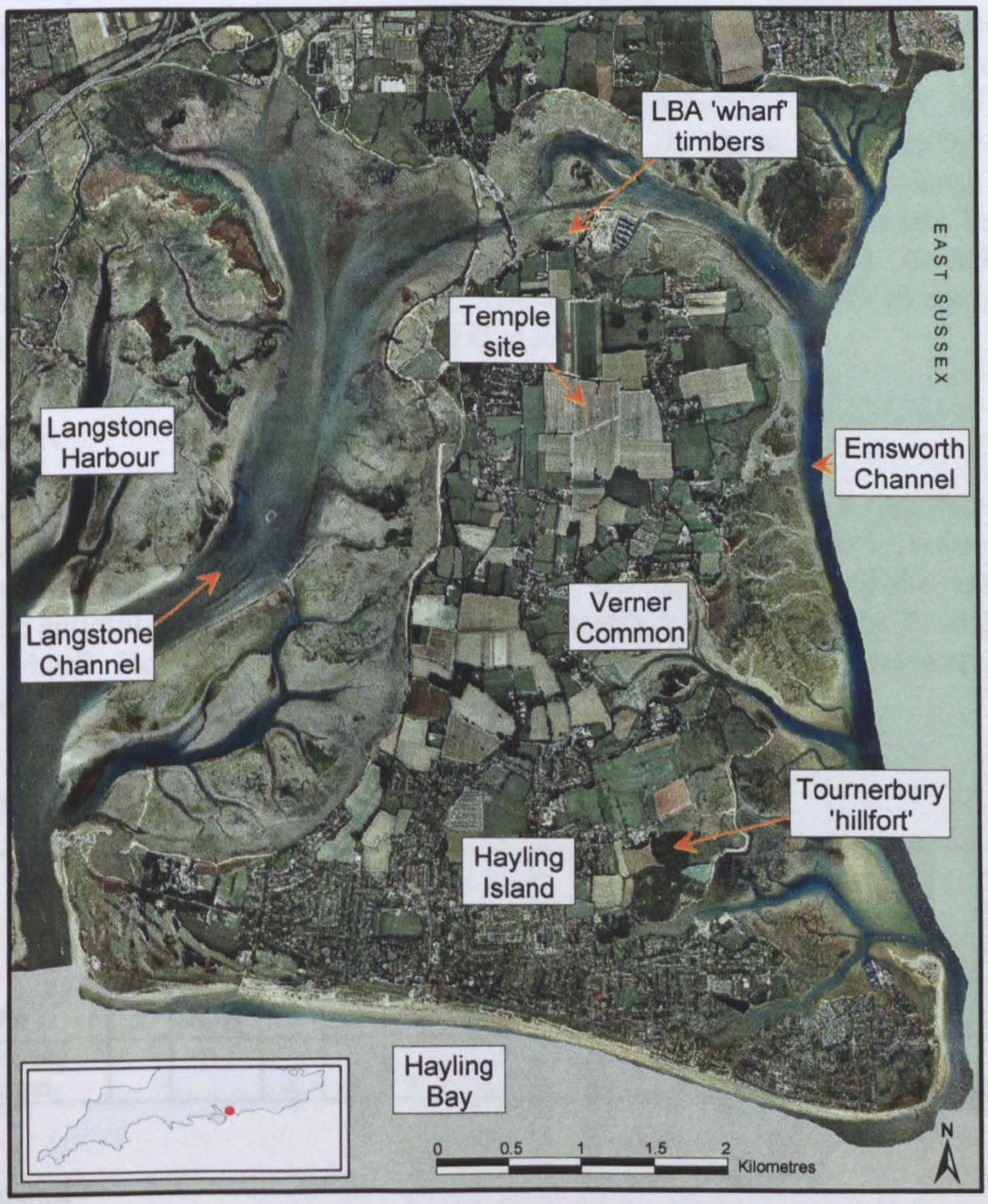

Figure 89: Aerial photograph of Hayling Island showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Hayling Island is well known as the site of a Roman temple (King and Soffe 1999). However, within the confines of the Roman building, evidence of an earlier Iron Age structure was revealed (HaSMR 23613). Dating from *c.*50 BC to the mid-first century AD, this was a circular building, probably also used for ritual purposes. Associated with the Iron Age building were finds and other features (hearths, pits, and post-holes). Beneath the courtyard of the Roman temple were Iron Age timber-fenced enclosures (HaSMR 23617). Finds at that site included imported Roman items of the first century BC (HaSMR 23614). King and Soffe (1999) reviewed the votive offerings that included currency bars, horse and vehicle trappings, spear heads and fibulae (all metal items), as well as Roman coins of the mid-late first century BC that are considered unusual finds from that time in Britain (Haselgrove 1987, 129-30; Briggs et al. 1993, 35-41; King and Soffe 1999). In addition, finds of Iron Age pottery, briquetage and burnt flint "pot-boilers" were recovered from the site of the former North Hayling Railway station (HaSMR 23531) and Cunliffe (1975, 279) suggested that salt production sites would have operated on the island at least as early as the first century AD. Four hearths, which have been dated to the Iron Age, were recorded eroding out of a low cliff opposite Verner Common on the east side of the island (HaSMR 23519, 23520, 23521 and 23522). Also near the eastern shore (currently *c.*250 m from the HWM) is the circular univallate 'hillfort' of Tournerbury. The encircling bank is still visible (rising to approximately one metre in height in places) and encloses *c.*3.44 ha in the marshy coastal zone (HaSMR 23329). Earlier maritime use of the island is suggested by a late Bronze Age timber structure, interpreted as a wharf (Williams and Soffe 1987). An oak pile and timber wattles were recovered from just below HWM at the north of the island and radiocarbon dated to 900 BC +/- 100 (HAR-8375) (*ibid*).

Comments

The location of Hayling Island matches some of the physical traits required for a node site. Iron Age use of the island is indicated by the occupation of Tournerbury 'hillfort', hearths near Verner Common and the pre-Roman origin of the 'temple' site. The antiquity of the island's use by marine traffic is implied by the Bronze Age timber wharf. However, the evidence is not sufficient to confirm nodal activity so this site is classified as a 'potential' coastal node.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
12	Hayling Island			x	x	x	x		?	x		x		?	x	

Conclusion

'Potential' site

Isle of Wight (Site 13)

Location

OS NGR: 450000, 087000
Isle of Wight, Hampshire

Physical setting

The Isle of Wight lies three kilometres south of the British mainland, separated by the Solent. The island is lozenge-shaped, *c*.37 km east – west and *c*.22.5 km north – south. Its coast is generally cliff-lined with small, sandy coves or sheltered, rocky-backed bays (for example, Freshwater Bay, Whitecliff and Bembridge) which offer shelter to small boats, and numerous creeks and inlets which break the cliff line. The main river, the Medina, has a tidal reach of more than eight kilometres and flows south - north to the sea at Cowes. From the coast, the land rises to the highest point on the island at Brighstone Down (214 mOD). A band of chalk runs east – west through the centre of the island from Culver Cliff to the Needles, dividing the Palaeogene clays and sands in the north from the Cretaceous gault and greensand in the south.

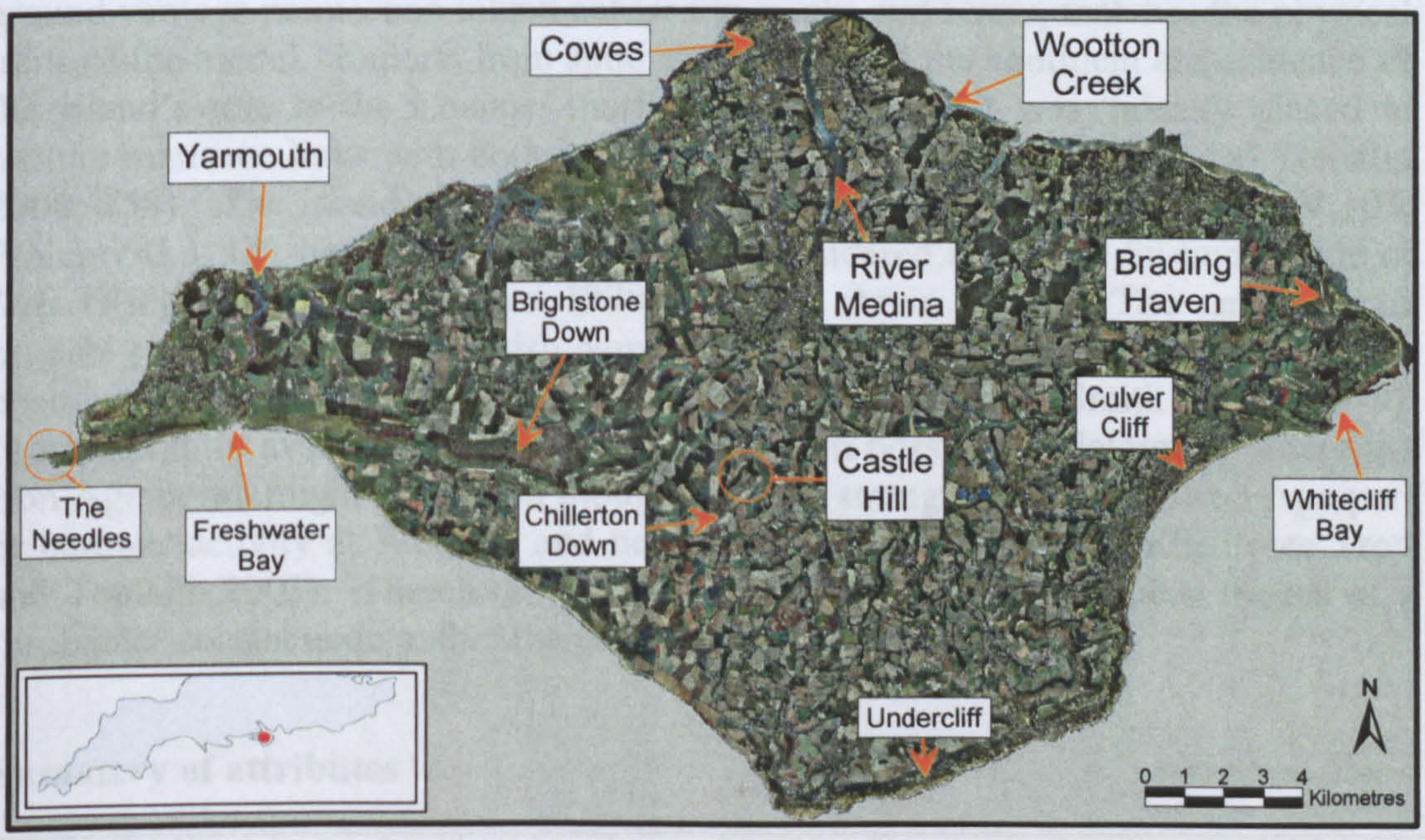

Figure 90: Aerial photograph of the Isle of Wight showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

The pre-Roman archaeological background of the island has, until recently, been mainly compiled from the evidence of stray finds. More recently, archaeological investigation, especially of the coastal zone, has begun to provide more information relating to later prehistoric activity (for example, Loader et al. 1997; Trott 1999). Timber mooring structures and beaching hards of consolidated ground to

accommodate vessels in the Iron Age have been reported at Wootton Creek (Loader et al. 1997; Tomalin 1998).

A wide range of imported material, including pottery, shale and coins from the area of the Durotriges, Armorican ceramic, Italian finewares and early amphorae are recorded on the Isle of Wight SMR. These show particular concentrations in their distributions on the south coast (at Undercliff where Iron Age currency bars were also found in the late nineteenth century (Westropp 1881)), in the north-west (in the area of Yarmouth), and the north-east (at Wootton and Bembridge) (see also Figure 15).

At Brading Haven (also known as Bembridge Harbour), an Iron Age HGE has recently been identified overlooking the coast and the seaward approaches (Trott forthcoming).

The promontory fort of 'Five Barrows' on Chillerton Down overlooks the tidal extent of the river Medina. On the basis of finds from the hillfort interior, it has been dated to the Iron Age (IoW SMR).

Comments

The location of the island, mid-way along the English Channel, places it at a strategic position in the area where Channel crossings could be made within daylight hours by Iron Age vessels. The topography of the island, with sheltered coves, high ground vantage points, and inland access via creeks and rivers, matches the physical traits of the model. Imports from southern Britain and the continent are evidence of the island's role in the Channel maritime network and it was "ideally placed to nurture maritime links with both local and continental markets" (Trott and Tomalin 2003, 158). The island was referred to as *Vectis* in classical texts (Pliny IV.103; Ptolemy II.3, 14), and some authorities have considered it was the tin trading site of *Ictis* (Ridgeway 1924; Hawkes 1978; and see Davis 1997). The name *Vectis* probably derived from the British name **Uexta*, possibly ultimately referring to the position of the island "in the fork of the Solent" (Rivet and Smith 1979, 488-9). From currently available evidence, it has not been possible to determine where the Iron Age port/s might have been though recently strong indicators of Iron Age port or harbour activity at Wootton and near Yarmouth have been identified (see Trott and Tomalin 2003). Therefore, at this stage, the island itself has been treated as a 'probable' coastal node, rather than any specific site within it.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
13	Isle of Wight	x	x	x	x	x	x	?	?	x	x	?	x	?	x	2

Conclusion

'Probable' site

Hamble Common, Southampton Water (Site 14)

Location

OS NGR: 448000 106250
Hamble-le-Rice parish, Hampshire

Physical setting

Hamble Common occupies a low-lying peninsula (less than 5 m OD) at the point where the river Hamble joins Southampton Water, 2.5 km from the confluence of Southampton Water with the Solent. The Hamble has an extensive reach of *c*.20 km inland to the north-east. Southampton Water, like Poole Harbour, benefits from a double tide, increasing the frequency of tidal access for waterborne vessels.

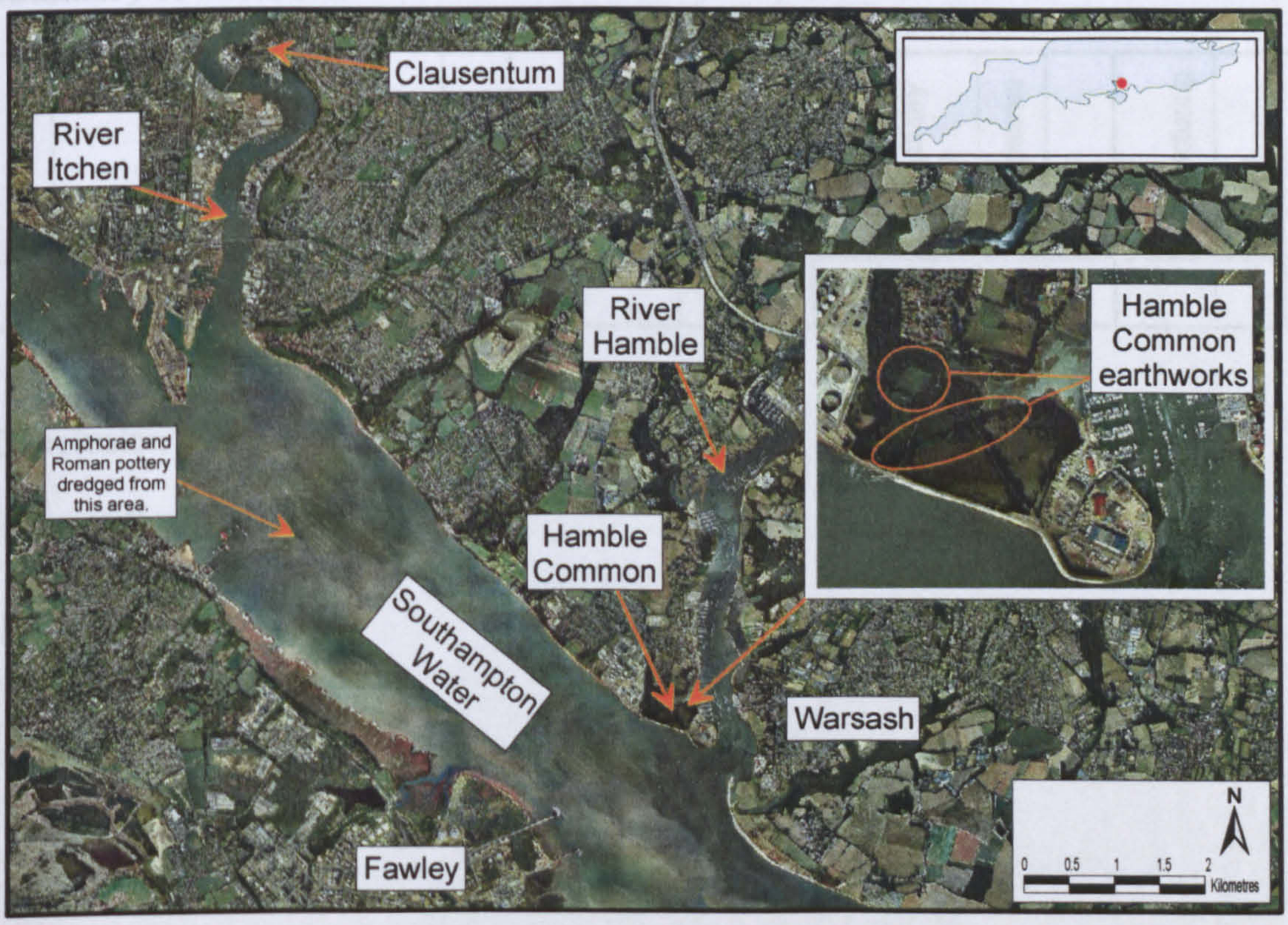

Figure 91: Aerial photograph of Hamble Common showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Linear earthworks on Hamble Common (HaSMR 25801) isolate a low marshy promontory, similar in situation to the sites at Hengistbury Head and Exbury. Other possible earthwork features can be seen eroding out of the Hamble Common area (HaSMR 39106). The area also has a group of undated salterns (HaSMR 35328).

Clausentum, at the head of Southampton Water was a Roman port that probably served the town of *Venta Belgarum* (Winchester) (Morey 1966, 25). It was located on a peninsula in a loop of the river Itchen (Williamson 1959, 48).

Amphorae and Roman pottery have been dredged from Southampton Water (general location 443000 108000) (HaSMR 22084).

Comments

The location of the Hamble Common earthworks, isolating the promontory at the confluence of two major waterways, conforms with the physical traits of the nodal model. However, the current lack of confirmed Iron Age material means that at present it is classified as a 'potential' rather than a 'probable' coastal node.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
14	Hamble Common	x	x		x	x	x		x		x	x				2

Conclusion

'Potential' site

Beaulieu River (Site 15)

Location

OS NGR: 441900 098750
Exbury and Lepe, and Beaulieu parishes, Hampshire

Physical setting

The Beaulieu River runs south for *c*.23 km from Longdown, through the eastern heathlands of the New Forest, to flow into the Solent near Lepe. At Lepe, which sits directly on the Solent coast, there is a low shingle beach backed by the Dark Water stream. Beaulieu is at the tidal extent of the river, *c*.6.5 km inland. The mouth of the river is now heavily silted. Approximately 1.5 km from its mouth, the river turns from north-east to south-east at the Lower Exbury promontory. The surrounding land is open and low-lying.

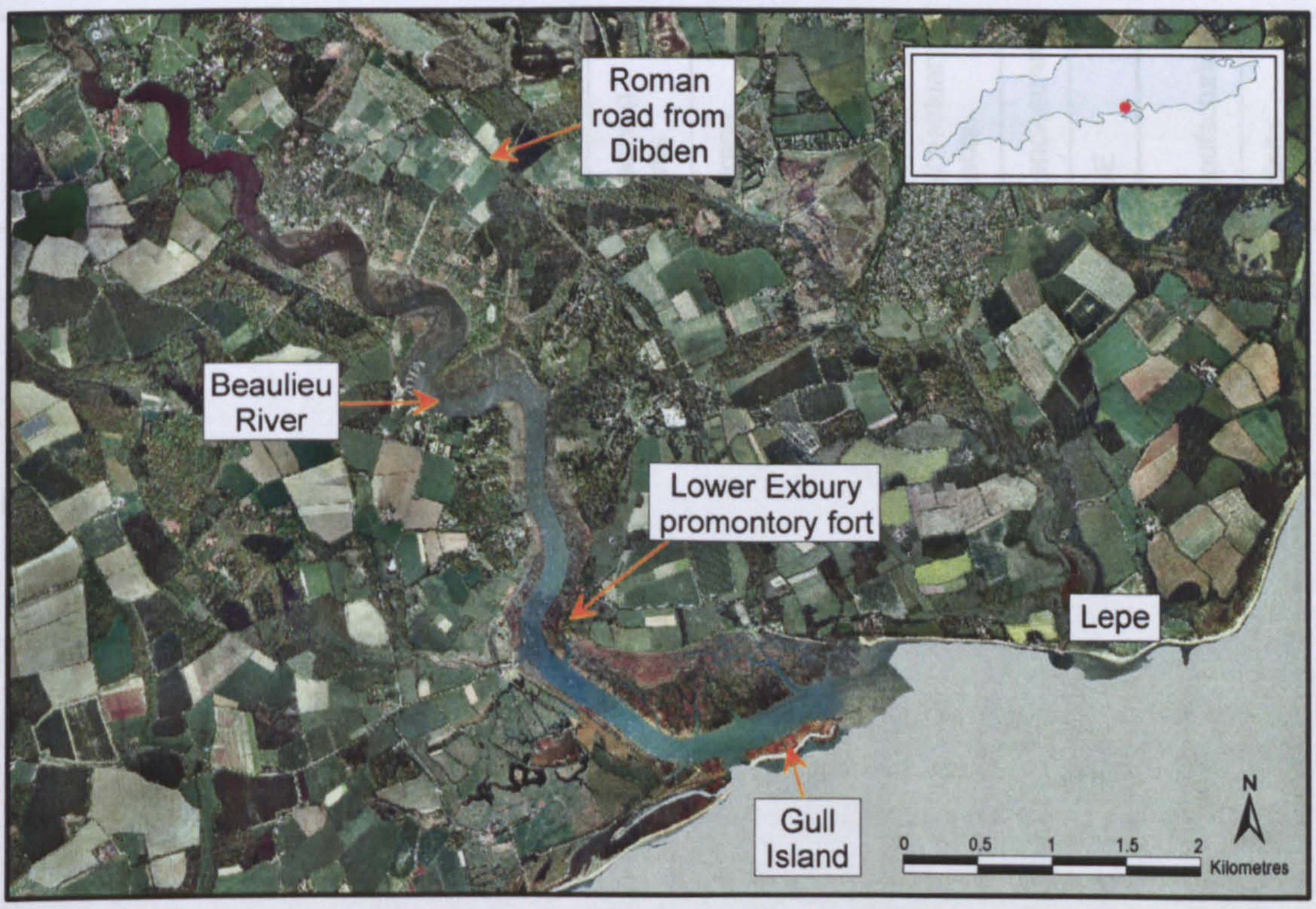

Figure 92: Aerial photograph of Beaulieu River showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

At Lepe an Iron Age gold stater (Westerham type) was recovered from the foreshore (HaSMR 22337). Later features include a Roman road that leads from Dibden to Lepe (HaSMR 29696) where two first century AD Roman bronze coins were

recovered (HaSMR 29935). In addition, abraded pottery from the first and second centuries AD has been recovered from Lepe beach (HaSMR 29937).

A promontory fort occupies the Lower Exbury promontory on the east bank of the Beaulieu River (HaSMR 21974; Sumner 1917, 119). Its location at the first turn in the river from the coast provides views for *c.*1.5 km up stream, and of the lower river reaches to the coast. No investigations or finds have been recorded at the site.

Comments

The location of the Lower Exbury hillfort, on the banks of a sheltered river, with clear access and extensive inland reach, matches the physical traits of the nodal model. However, as there is a lack of evidence relating to the use of the area, it is suggested as a 'potential' nodal site.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
15	Beaulieu River	x	x	x	x		x		?		x	x	x		xx	3

Conclusion

'Potential' site

Lymington (Site 16)

Location

OS NGR: 433000 095500
Lymington and Pennington Parish, Hampshire

Physical setting

Lymington is a small coastal town now clustered on the west of the Lymington River that runs *c.*15 km from the inner heath of the New Forest to exit into the Solent opposite Yarmouth on the Isle of Wight. The point where the river meets the Solent is characterised by sand and mud flats that are edged by marshlands. The narrow plain of the Lymington river lies in a shallow valley. The river has deposited much silt at its mouth so that the entrance to the river channel is now one kilometre from the HWM at the shore. The coast and river mouth are sheltered by the extended gravel ridge of Hurst Spit and the Isle of Wight which lies *c.* five kilometres south across the Solent.

Figure 93: Aerial photograph of Lymington River showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Buckland Rings multivallate hillfort lies *c.*600 m west of the river and three kilometres north of the coast (HaSMR 21843; Hawkes 1936). It encloses *c.*3.2 ha

and was partially excavated by Hawkes in 1935 (Hawkes 1936). Just 0.5 km to the east is Ampress Hole mulitvallate hillfort which encloses *c*.2.4 ha with a double bank and ditch circuit (HaSMR 21841; Smith 1999). Ampress Hole was the subject of a small excavation of its defences, conducted by Aberg in 1959 (not published, see HaSMR 21841). Both hillforts have been dated to the Iron Age.

Finds from Lymington Marshes include a Late Bronze Age bowl (HaSMR 42538), and a hoard of socketed axes were found near the town in 1779 (since lost) (HaSMR 39881).

Comments

The location of Lymington, at the west of the sheltered Solent, would make a useful haven point for coastal shipping. The river's inland reach, and the fact that it is overlooked by two Iron Age hillforts, suggest the area as a 'potential' coastal node.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
16	Lymington	x			x	x	x				x		x			

Conclusion

'Potential' site

Hengistbury Head (Site 17)

Location

OS NGR: 417250 090880
Bournemouth Unitary Authority, Dorset

Physical setting

The promontory known as Hengistbury Head consists of mainly low-lying flats from which rises the only local high ground of Warren Hill (which rises to *c.*36 mOD). It has a complex geological stratigraphy of sands and clays of the Bracklesham series; the high ground of Warren Hill is capped with Pleistocene gravels. The headland forms the southern limit of Christchurch Harbour into which flow the Rivers Avon and Stour. The harbour is shallow but well sheltered and prominently located mid-way along the English Channel. The headland has changed dramatically over time due to coastal erosion, exacerbated by nineteenth century quarrying for ironstone that still outcrops as doggers in the cliff face. The 'defensive' Double Dykes – a twin Iron Age bank and ditch - isolates over 1.5 km of headland and is believed to delimit the coastal part of the promontory covering *c.*120 ha (Cunliffe 1997, 229). Cunliffe's excavations revealed an ancient shoreline with a high tide limit of *c.*0.6 m above the present equivalent. Some Iron Age structures encroached into this area, a fact interpreted by Cunliffe as suggesting the high tide level fell during that period (Cunliffe 1987, 78).

Archaeology

The Hengistbury Head promontory contains archaeological sites ranging from the Palaeolithic period through to medieval times (DoSMR). There is evidence of fairly continuous occupation from the late Bronze Age through to the Roman period.

In 1911-12 J P Bushe-Fox sample investigated *c.*42 acres (*c.*17 ha) in advance of proposed development (which was not completed) (Bushe-Fox 1915). His investigation included trenches excavated in Barnfield (see Figure 18). From these were recovered Iron Age and Bronze Age pottery, worked flints, and a burnt layer just within the Double Dykes earthwork, close to the cliff edge that was judged to be a cremation site (Bushe-Fox 1915, 20). Limited excavation was also conducted by H St George Gray 1919-24 and David Peacock 1970 and 1971 (both summarised in Cunliffe 1987). A study of Palaeolithic and Mesolithic sites and material from Warren Hill was conducted by Nick Barton (1992) following earlier work by Angela Mace (1959).

Professor Barry Cunliffe undertook the most recent excavation between 1979 and 1985 (Cunliffe 1987). This concentrated on the 'trading settlement' in the lee of Warren Hill (see Figure 18) but the overall area of the settlement was not determined. Cunliffe estimated the later Iron Age – Romano-British occupation covered an area of 75,000 square meters, of which he excavated a 4% sample (3,000 square metres) (Cunliffe 1987, 75).

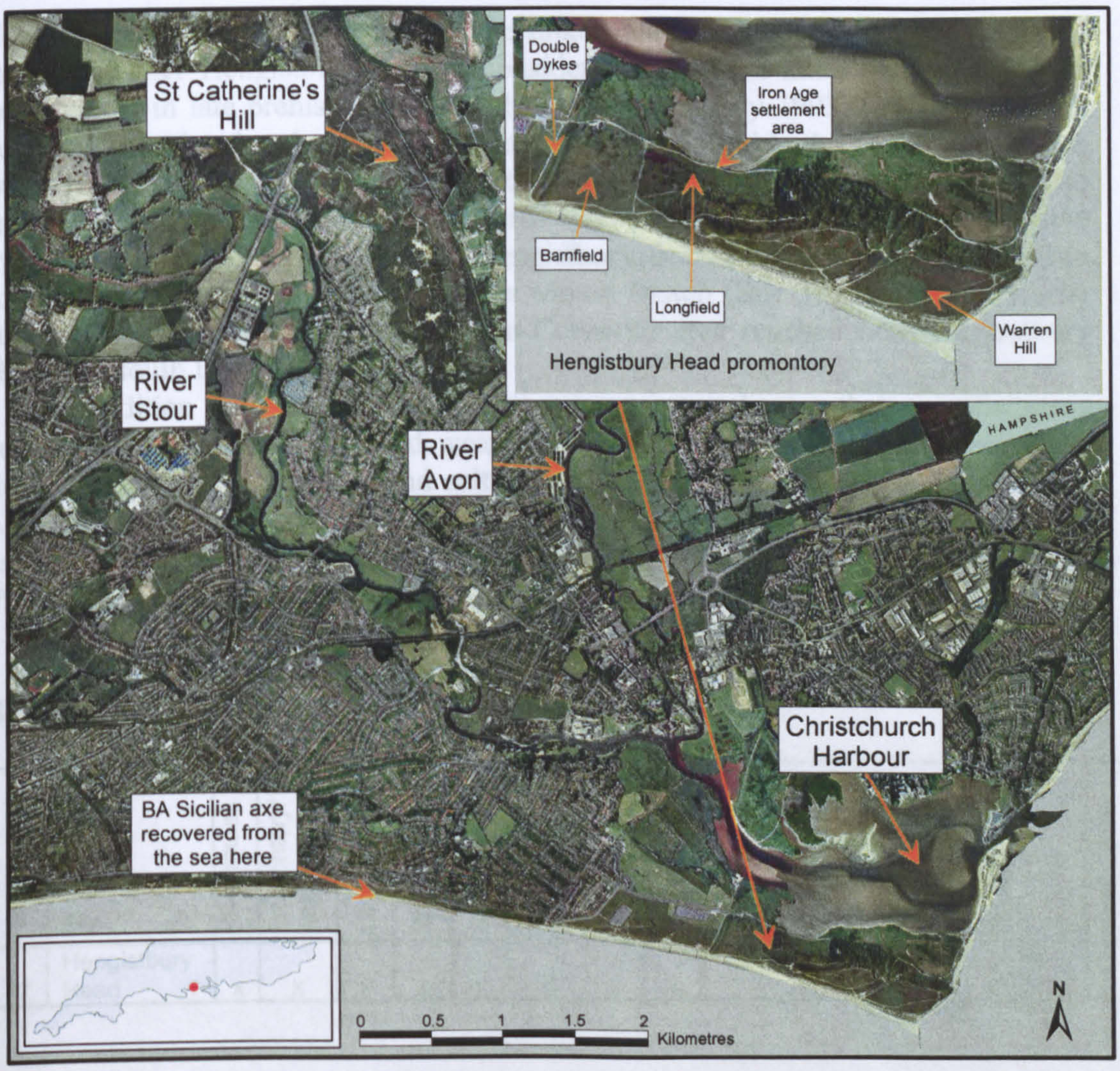

Figure 94: Aerial photograph of Hengistbury Head showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Comments

The promontory of Hengistbury Head and sheltered waters of Christchurch Harbour conform to the characteristics of the physical traits model. Warren Hill shelters both the Iron Age settlement area and the harbour, and is an identifiable landmark from the sea. The rivers Avon and Stour, which flow into Christchurch Harbour, provide access inland to west Dorset and Wiltshire. Excavations at Hengistbury in the twentieth century revealed evidence that the headland and harbour had been used as a port and settlement in the late Iron Age and that it operated within international maritime networks. Material was recovered which had originated in France, Italy and Mediterranean areas, as well as from other regions within southern Britain.

The headland has been interpreted as a major trading site on the fringe of Durotrigian territory (Bushe-Fox 1915; Cunliffe 1987) where land and river routes through southern Britain linked with sea routes along and across the Channel from Brittany and the Atlantic route from Iberia and the Mediterranean (Hawkes 1938a, 226). Strabo recorded that the Veneti of north-west France traded with southern England via a major port (*Geography* IV.4.1). Mays (1981) argued that the port was

Hengistbury Head. Hengistbury can be linked with the Breton port site of Alet - indeed the Alet–Hengistbury route is considered one of the main trade links across the Channel in late prehistory (Calder 1986, 67; de Jersey 1993). Both are small, defendable peninsulas sheltering an accessible harbour and both offer advantageous water routes inland (Alet is at the mouth of the Rance estuary). Hengistbury also gathered goods from south and south-west Britain. Dobunnic goods were transported south along the Stour to Hengistbury from where they were coasted to south-west regions via port sites such as Mount Batten (Site 32). In this way, iron currency bars originating in the Severn-Cotswold area reached both Hengistbury Head and south Devon (Fox 1964, 131).

In addition to trade, evidence from excavation indicates that manufacturing activity at Hengistbury included weaving textiles, shale working, glass working, lithic working, coin minting, and salt working (Cunliffe 1987, 176; Wells 1995a, 216). In particular, excavation revealed a "remarkably advanced" metal industry – especially copper and extraction of silver from argentiferous copper (Cunliffe 1975, 99).

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
17	Hengistbury Head	x	x	x	x	x	x	x	x	?[57]	x		x	x	xx	1

Conclusion

'Definite' site
This site is discussed in detail in Chapter Six.

[57] Warren Hill and the promontory area may have been perceived as an island due to its isolation by the Double Dykes earthworks.

Poole Harbour (Site 18)

Location

OS NGR: 403700 086800 (entrance)
Fringed by various parishes and Poole Unitary Authority, Dorset

Physical setting

Poole Harbour is one of the largest yet shallowest natural harbours of the world, with a surface area of more than 3700 ha. It is a wide, flooded valley basin (ria) situated roughly midway along the northern shore of the English Channel and is the last "lagoon port" for vessels travelling westwards (Williamson 1959, 132). The harbour is fed by the rivers Frome and Piddle, and the Sherford river runs into one of the two small northern bays, Lytchett Bay (the other is Holes Bay). There are five permanent islands in the harbour. The geology is predominantly sand of the Bracklesham Group, with areas of Poole Formation Parkstone clay (Bristow et al. 1991). There are also thin spreads of Pleistocene gravels.

The variety of geology, pedology, and land type around Poole Harbour allowed a wide range of flora and fauna to develop, much of it useful as raw materials (Syratt 1984, 39). Resources such as clays, reeds, and food supplies were useful to the inhabitants of, and visitors to, the harbour. This has made it an important area for people to visit and inhabit for many millennia.

In the present day, the area around the modern harbour varies in character from the resort of Sandbanks and commercial district of Poole in the north, to less densely developed areas around the south of the harbour which is currently a zone of typical Dorset heathland.

Archaeology

The archaeological importance and potential of Poole Harbour can be judged from a recent survey of England's coastal archaeology for English Heritage which concluded that it "deserves multi-period assessment" (Fulford and Champion 1997, 232).

The area has yielded archaeological evidence relating to all periods from the Palaeolithic to modern times. Some of the key studies include work at Bestwall (Ladle 1996; 2000), Wareham (Hinton and Hodges 1980), and Wytch Farm (Cox and Hearne, 1991). Period studies include those of the Iron Age (Calkin 1949) and Romano-British times (Woodward 1987a; 1987b). Research based in neighbouring areas supports wider links with Poole Harbour, for example, Hengistbury Head to the east (Cunliffe 1987), and Maiden Castle via Weymouth in the west (Sharples 1991a; 1991b).

The harbour itself has a long history associated with mineral, salt, and clay extraction. Beyond the immediate southern fringe of the harbour is the 'Isle' of Purbeck with a range of accessible mineral resources including limestone, shale, Purbeck 'marble', chalk, clays, and salt. These resources led to the area emerging as an important late prehistoric and Romano-British manufacturing centre: shale, clay,

and salt were increasingly exploited through the Iron Age (Hearne and Cox 1994, 102).

Within the south of the harbour, previous excavation uncovered evidence of Iron Age activity at Ower Peninsula (Woodward 1987a; Cox and Hearne 1991), Green Island (Farrar 1964; 1967; Bromby 1969) and Furzey Island (Cox 1985; 1988). At Ower, a large late Iron Age/Romano-British settlement and 'industrial' site was located (see Cox and Hearne 1991). From that area an earlier construction, the Green Island 'causeway', ran out to South Deep. This is a substantial feature built of stone and timber. Survey of the 'causeway' has revealed that it is in fact two contemporary structures of mid-late Iron Age date which have been interpreted as 'jetties' (Markey et al. 2002).

Investigations on Green Island produced evidence of Iron Age/Romano-British activity including shale-working, salt production, and pottery production. (Farrar 1977) as well as imported pottery which suggests links with wider trading networks within Britain and across the Channel. Similar late Iron Age evidence has been recovered from Furzey Island (Cox 1985; 1988) and it is suggested that, until the early Roman period, Green and Furzey Islands were one landmass (Cox and Hearne 1991, Figure 91; and see section 7.4.2), referred to in this study as 'South Island'.

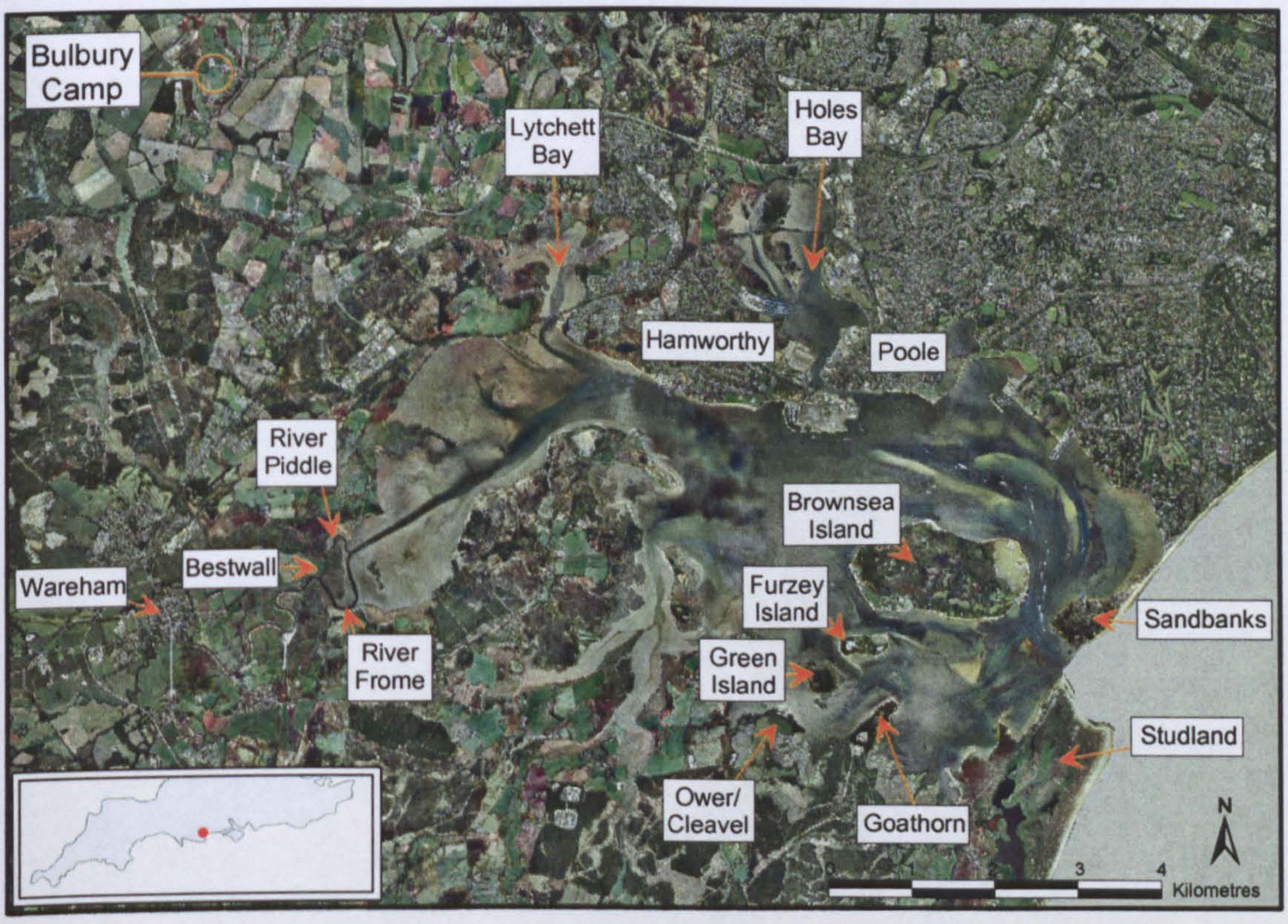

Figure 95: Aerial photograph of Poole Harbour showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).
NB a more detailed view of southern Poole Harbour is shown in Figure 31.

Comments

The physical characteristics of Poole Harbour conform to the traits identified in the 'coastal node' model. The fact that many of the items recovered from in and around the harbour were of continental origin suggests that the southern area of Poole

Harbour may well have been involved in cross-Channel trade in later prehistory. If so, this would make Poole Harbour one of the earliest cross-Channel trading ports - a function that persists to the present day, over 2000 years later.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
18	Poole Harbour	x			x	x	x	x	x	x	x	x	x	x	xx	1/2

Conclusion

'Probable' site

Kimmeridge (Site 19)

Location

OS NGR: 390600 079000
Steeple and Kimmeridge parishes, Dorset

Physical setting

The clay cliffs around the bay are formed of alternating bands of shale and stone above a 'beach' of shale pebbles and rock ledges (Davies 1956, 95). The bituminous oil shale was formed from the anaerobic decay of organic matter under pressure (*ibid*, 43) and served as a source of fuel (it burnt like coal) and a raw material for jewellery production in later prehistory and the Romano-British period (see Calkin 1955). The bay itself is hazardous for shipping at low tides due to the rock ledges that extend out from the beach. However, high water approaches into the sheltered harbour are easily undertaken. A freshwater stream cuts down to the beach from a source approximately one kilometre distant.

Figure 96: Aerial photograph of Kimmeridge showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Eldon Seat (Cunliffe 1963; 1964) and Rope Lake Hole (Woodward 1987b), both Iron Age occupation and shale working sites, are located approximately 3.0 km and 2.25 km to the east respectively.

Comments

Shale-cutting activity at Kimmeridge in the Iron Age produced the raw material for the armlet production industry in Poole Harbour and sites throughout Purbeck. The cut shale was transported *c.*25 km, probably by sea, to sites in the harbour such as Green Island where it was fashioned into armlets and possibly other products. Despite the low-tide rock hazards within the bay, it offers protected anchorages and, as it is known that shale was exported from Kimmeridge, it is likely that the sheltered cove would have received maritime traffic as part of the wider coastal network.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
19	Kimmeridge				x	x								x		3

Conclusion

'Potential' site

Bindon Hill (Site 20)

Location

OS NGR: 382900 080300
West Lulworth Parish, Dorset

Physical setting

Bindon Hill rises above the northern shore of Lulworth Cove and runs east to Mupe Bay and Arish Mell. Lulworth Cove is the only natural harbour with all-weather safe moorings for small craft along a 22 km stretch of Dorset coast. The north of the cove rises very steeply to a crest running the length of Bindon Hill at a maximum height of 168 mOD. The ellipsoid cove covers *c*.305 m north – south, with an entrance *c*.122 m wide (Davies 1956, 86). A firm, shingle beach runs around the northern shore. All around the cove, cliffs rise steeply, affording considerable shelter in the natural harbour.

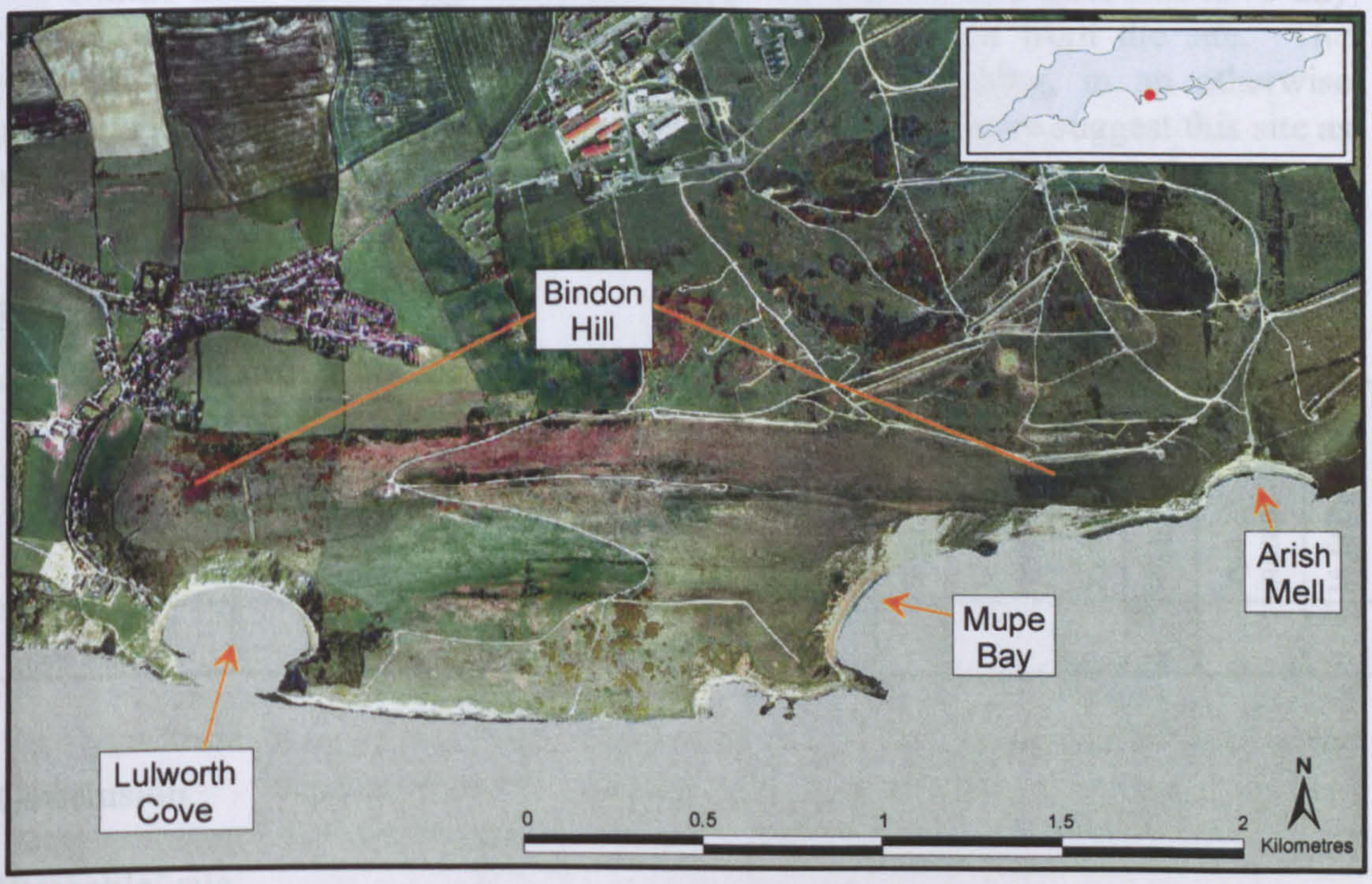

Figure 97: Aerial photograph of Bindon Hill showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Linear earthworks isolate approximately 81 ha of the ridge of Bindon Hill above Lulworth Cove (see 'Comment' below).

Comments

The site is a mainly univallate hillfort with one surviving entrance on the north side that is still approached by an ancient track known locally as 'the Roman Road'. Wheeler excavated here in 1950 and found the width of entrance and track to be wider than usual "perhaps designed for the easy admission of cattle" (Wheeler 1953, 7). There is also an additional cross-dyke earthwork cutting off 200 acres (81 ha) of the west end of the ridge and harbour. This is unfinished and the method of layout and construction is still visible - built using the gang system (as at Ladle Hill - see Piggott 1931).

Wheeler's section through the rampart to the east of the entrance revealed over 200 British IA-A sherds. No haematite coated wares were recovered despite these being prolific at the contemporary sites of Maiden Castle and Kimmeridge. It was therefore concluded that Bindon is "chronologically unanchored within the earlier part of the Iron Age" (Wheeler 1953, 10).

Wheeler interpreted the site as an Iron Age beach-head or transit camp where tribal unit/s, during a 'period of movement', could wait after landing before infiltrating the hinterland. The rise of ground from beach to hill top is considerably steep, but paths ascending the shallower western edge would have been more suitable for carrying loads to the enclosed area of the summit.

Unlike most other suggested node locations, Bindon Hill does not have any riverine associations. However, overland tracks are known from the site. The position of the cove, offering safe anchorages and beaching, in an otherwise inhospitable stretch of coast, and the 'transit camp' hillfort above suggest this site as a 'probable' Iron Age coastal node.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
20	Bindon Hill		x	x	x	x	x	?	x				x		x	

Conclusion

'Probable' site

Portland (Site 21)

Location and plan

OS NGR: 369000 071000
Portland parish, Dorset

Physical setting

The 'Isle of Portland' lies mid-way along the southern coast of England, on the coastal fringe of the Durotriges' territory, serving as a key navigational feature for vessels in the English Channel. It is a natural landmark at which the coasting element of voyages would cease and vessels head out into open water (McGrail 1995a, 276). Portland is the closest English port to the Channel Islands (Rees 1972, 329), a significant point in the routes for cross-Channel trade during later prehistory. It lies opposite the French port of Cherbourg, regarded as the 'natural port of entry' for vessels from central southern England (Coles 1968, 56-7).

Portland is now 6.5 km long and 2.5 km across its widest point, with the highest point at the summit of The Verne hill, *c.*150 mOD. From here is afforded an unrestricted view over the water that on a clear day can see half-way across the English Channel, westwards to Start Point near Kingsbridge, Devon, and to St Alban's Head in the east. The natural shingle bank of Chesil Beach connects Portland to the mainland, enclosing the Fleet 'lagoon' behind it.

The roughly triangular landmass covers *c.*3000 acres (*c.*1200 ha) and is composed of Jurassic rocks that dip gently from the highest point in the north to the 'Bill' in the south. Portland sands and stones overlie Kimmeridge Clay in the north and Lower Purbeck Beds in the south (RCHME 1970, 246-7). The east, west, and southern fringes of Portland are edged by steep cliffs that offer a measure of security; prior to 1839, when a bridge was constructed at Smallmouth, access from the north entailed a 17 km walk along the shingle of Chesil Bank, or fording/boating across the shallows. A 'half-moon' crescent earthwork (undated) was noted by Hutchins (1803 II, 354) at Smallmouth. This was possibly to defend the narrow water crossing at that point.

Portland shelters a harbour area that is fringed to the north by the sand beach of Weymouth and the narrow mouth of the river Wey. This rises just 6.5 km to the north, between Weymouth and Dorchester. The Roman harbour at Radipole Lake was located in a flooded basin of the Wey behind the area of the current town of Weymouth.

Quarrying for Portland stone has been extensive, dramatically altering the natural topography and causing immeasurable damage and loss to the archaeology of Portland.

Archaeology

To the north of Portland Harbour is the port town of Weymouth where the narrow mouth of the river Wey provides access from the sheltered anchorage of Portland Harbour (Williamson 1959, 132). To the north of Weymouth, the massive chalk

ridgeway rises sharply to heights in excess of 200 mOD. It is densely scattered with Bronze Age barrows and the area saw much Roman activity including the Romano-Celtic temple at Jordan Hill (Drew 1931; 1932) and the port at Radipole (Farrar 1951, 94-9). Early Iron Age remains have also been uncovered in the vicinity of Radipole Lake including haematite coated pottery and burnished wares (Morris 1974), and a pre-Roman Durotrigian silver coin was recovered following a landslip at Furzey Cliff (OS NGR: SY70148196) (Farrar 1962a, 112).

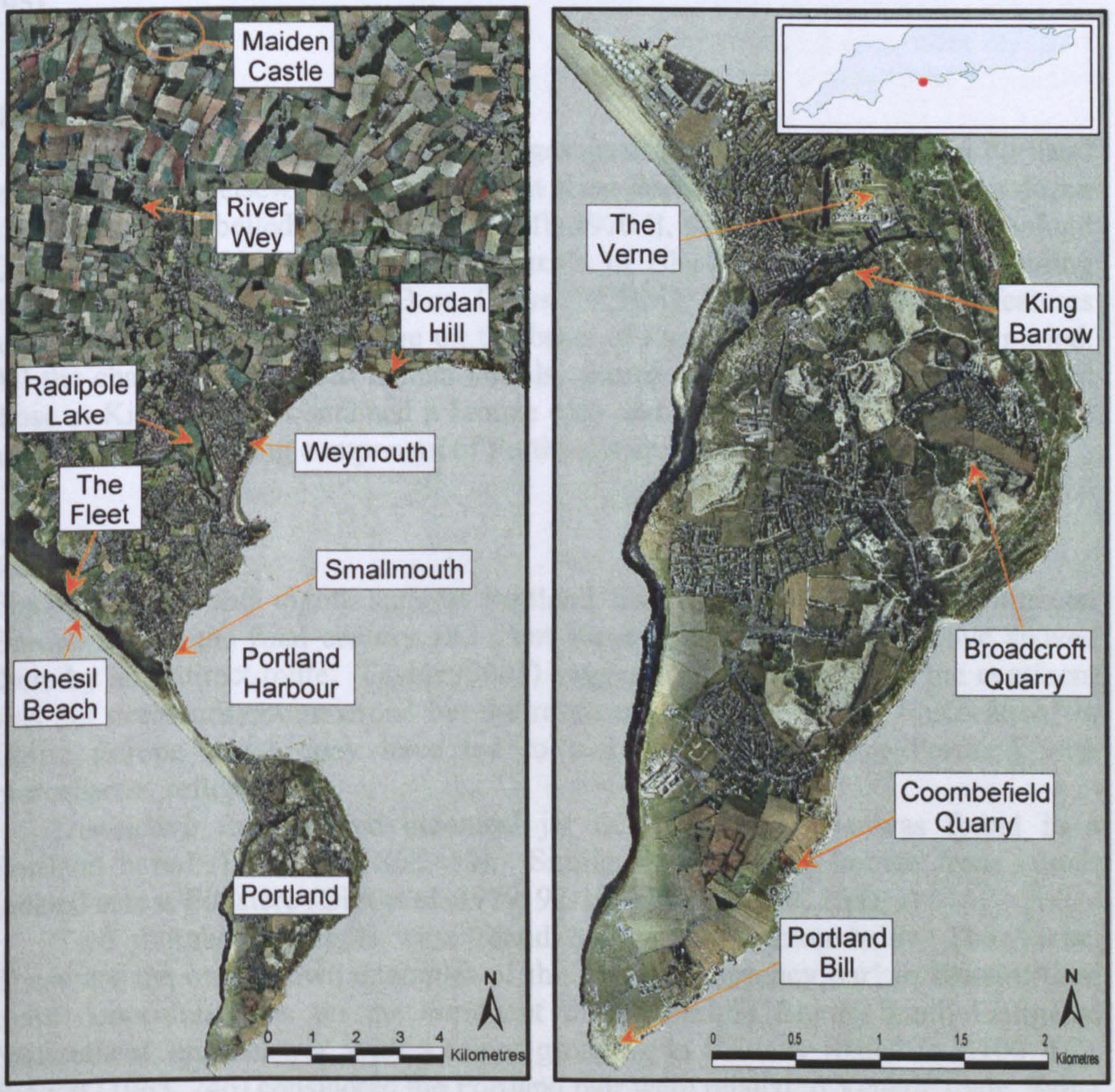

Figure 98: Aerial photograph of Portland showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

The Verne

A bi-vallate hillfort enclosed approximately one-third of an acre at the summit of The Verne before being destroyed by quarrying and the construction of a Victorian 'citadel' (now HM Prison). Its position is known from a local painting (see below), a breakwater chart (Rendell and Goode 1857), and a description and sketch by the local antiquary, Charles Warne (1872, 256). He describes it as oval and "more than 50 paces across" (and see Taylor 2001, Fig 4). Finds from the area include Romano-British inhumations, a flint axe, and "2,000 slingstones the size of cricket balls" (RCHME 1970 II, 504). The position is strategically commanding and Taylor (2001) considers it was possibly a maritime trading settlement making use of the

sheltered anchorage immediately below in Portland Harbour. As at Bindon Hill, the ascent from the harbour to the site on The Verne was steep, but Taylor considered it was viable and heightened the defence and security of the site. A distinct track leading to The Verne was recorded as a pre-Roman "double fosse-way" (Heath 1933, 216). It is considered ancient although no direct connection has been proved with the hillfort there. Taylor believes it would have been used by the inhabitants as the most logical route given the constraints of the local topography (Taylor 2001, 195).

'Beehive chambers'

These stone-lined chambers are found in groups at various locations within Portland but are unknown elsewhere in Britain. At King Barrow (SY69207285) are a dozen circular stone corbelled chambers (RCHME 1970 II, 605-6). Others at Coombefield Quarries (SY689706) contained three sherds of Black Burnished Ware including two rim pieces from Iron Age-B or -C jars (RCHME 1970 II, 607). These features have been dated to the Iron Age on the basis of the pottery finds from the period. All the chambers contained human burials, animal bones, pebbles, slingstones and those at King Barrow contained a bronze coin and shale pieces. These features are an unusual and striking component of Portland's archaeology.

Relevant finds

Finds of coins and ingots suggest Portland had direct contact with continental Europe during the final century BC - but some of the material may have arrived there by an indirect route. Taylor (2001) suggested that contact with the continent was not necessarily commercial but the result of the contemporary 'dislocation' in Celtic Europe which may have led to material brought to at Portland with mercenaries, refugees, etc.

Distinctive four-handled biconical jar of Armorican type was found in a Portland burial (Buckman 1868, 50). Similar examples are known from tumuli located across Finistère (Giot et al. 1979, 92-102; Briard 1984, 253).

Two rhomboidal ingots were found on North Common below The Verne. These are the only known examples of this type of 'currency bar' in Britain; their main concentration is on the continent in the middle Rhine, South Germany, Switzerland, and Austria, with a minor grouping in Brittany (dated to *c.*100 BC). Piggott (1965, 246) considered the Portland pair were related to Venetic trade; Salter and Ehrenreich (1984, 152) saw them as evidence of cross-Channel trade in metals during the Iron Age (see also Taylor 2001).

A Celtic mirror handle was found in 1875, probably from the area of The Grove (*c.* SY700725) (Fox 1949 29; 30; RCHME 1970 II, 607). Many Iron Age and Romano-British potsherds were recovered from private gardens at Southwell (Farrar 1963, 101; RCHME 1970 II, 607-8).

Coins

Several finds of coins from Portland and its environs dated to the late Iron Age and early Roman period. Amongst these are Gallo-Belgic A types including a rare British find of an AC-1 (Haselgrove 1978, 5) and a gold AB-1 found on The Verne (Allen 1961, 149). This represents a western outlier to the main concentration in

Britain located in the south east, particularly around the River Thames (see Cunliffe 1981, 62-3). The continental and British distributions of these suggest the main axis of importation was across the Straits of Dover; they are dated to the second century and first half of the first century BC (Scheers 1977, 259, 263). Their findspots along the south coast may represent 'ports-of-call': Hastings, Seaford, Selsey, Portland, Mount Batten (Taylor 2001, 197).

Another gold Gallo-Belgic stater (F-type) was found on The Verne, attributed to the Suessiones from east of Paris, mainly based along the River Marne. The coin is dated to *c.*65-58 BC (Scheers 1970, 155-6). A further gold coin from the first century BC is probably of the Sequani (Scheers 1996, 73). A deposit of Danubian silver tetradrachms was also found on Portland (Allen 1968).

In the vicinity, further coin finds have been made along the beach areas, mainly following storms. These include two Armorican coins found on Chesil Bank - a gold stater of the Namnetes from the second half of the second century BC (de Jersey 1994, 78-9), and a stater of the Veneti which was probably in circulation *c.*150 – 75 BC (Taylor 2001, 198).

Comments

Archaeological attention to Portland in the past has been far from extensive given its unusual and strategic location - but it is perhaps this 'insularity' that discouraged investigation. More recent investigations have been hampered by the destruction wrought on the archaeological resource by centuries of extensive quarrying that led one of the most recent reports to state that "No coherent picture of Iron Age Portland is possible. The quality of the data is too poor, and scientific excavation is lacking" (Taylor 2001, 196). Most of what is known has come from finds made by quarrymen or sources not immediately classified as archaeological. One such example is the painting completed by Upham between 1802-5 of the Portland Arms public house that happens to depict the now vanished hillfort on the summit of The Verne in the background. This hillfort was recorded by Aubrey in the seventeenth century (1982, 358) and mentioned by Hutchins (1861-73 II, 817-8) and various travel guides of the eighteenth and nineteenth centuries (see Taylor 2001, 191).

However, the Mesolithic and Palaeolithic archaeology of the Isle is under review (Palmer 1965; 1985). Proposed new quarry sites are the subjects of an ongoing impact study covering 350 ha, mainly on the eastern side and southern coastal fringe. The emerging distribution map shows Bronze Age and Iron Age points of interest, particularly in the south-east corner associated with the raised beach (a designated Scheduled Ancient Monument due to its known Mesolithic archaeology) and running out to Portland Bill. At this early stage of the project, it would appear that there is a coincidence between the locations of these points and freshwater springs. A density of Iron Age finds has been recovered from the area of Broadcroft Quarry and a previously unknown early Iron Age settlement has been identified west of Grove Fields (P Cox, presentation to Dorset Coastal Forum Seminar, 28 November 2001).

In a recent study, Taylor (2001) suggested that an important hillfort settlement had been located on The Verne, protecting the major harbour in the lee of the hill. It would be an arduous climb from the harbour to the top of the hill, although a similar situation existed at Bindon Hill further east along the coast. The harbour at Portland was suitable for Iron Age vessels: McGrail (1983, 310-3) suggests six criteria for

useful harbours which Taylor argues Portland satisfies "for the most part" (2001, 196).

The finds from Portland suggest it maintained contacts on wide scales – regional (material from Hengistbury Head), national (probably coming along the coast), and possibly direct international contact (coins, ingots, ceramics).

The combination of advantageous natural topography, insular security, a sheltered harbour, inland access, the proximity of Maiden Castle, the position on the along-Channel routes, evidence of possible wreck sites, and finds of imported material all suggest Portland as a 'probable' Iron Age coastal node.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
21	Portland	?	x	x	x	x		?	x	x	x		x		x	1/2

Conclusion

'Probable' site

Seaton/Axmouth (Site 22)

Location

OS NGR: 325650 089820
Seaton and Axmouth parishes, Devon

Physical setting

The Seaton valley cuts through Permian strata between hills of greensand and chalk in which chert bands, up to three metres thick, are known and visible in the coast (Edmonds et al. 1975, 68; 69)

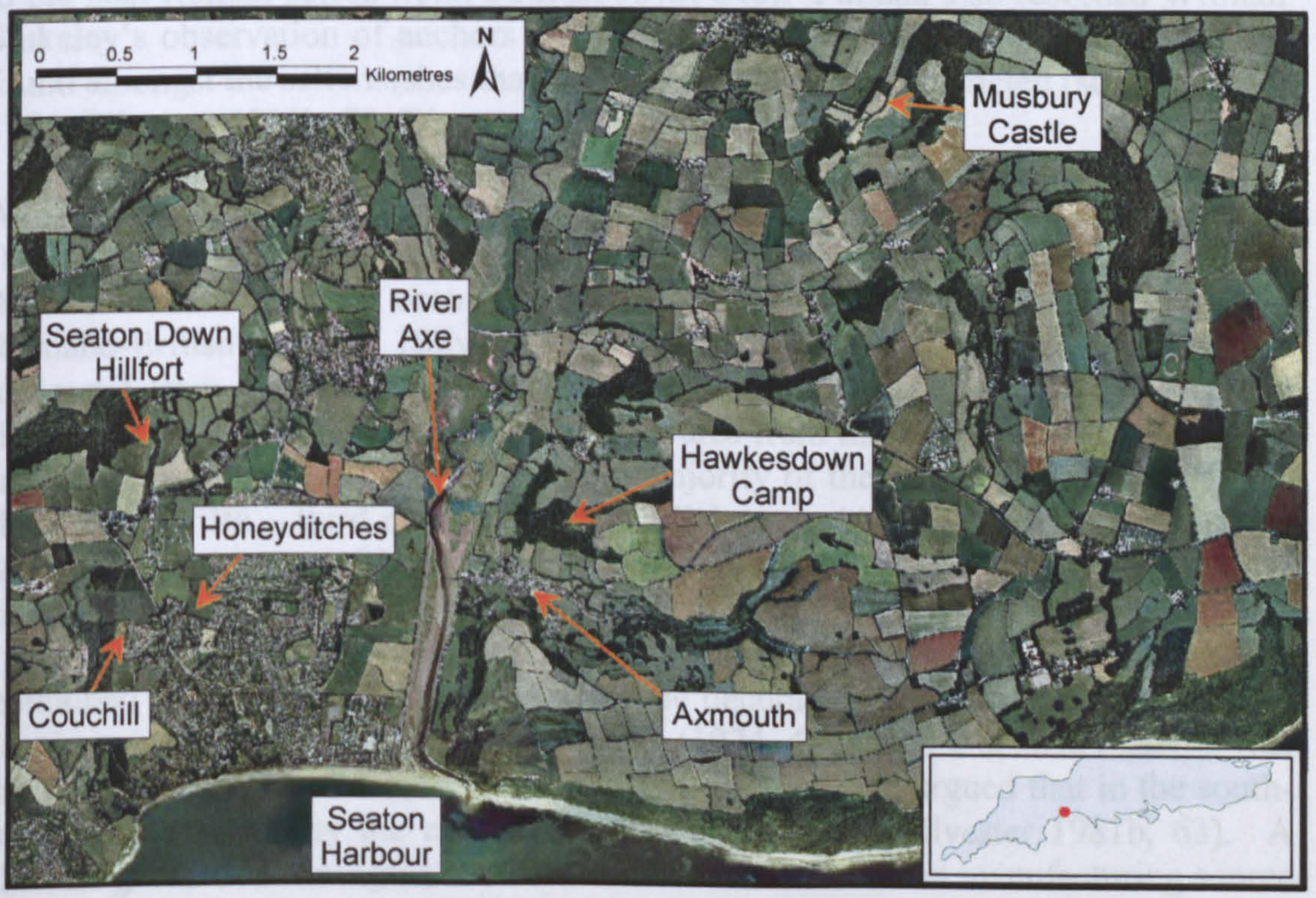

Figure 99: Aerial photograph of Seaton and Axmouth showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Late Iron Age occupation of Seaton has been recorded at the settlement and hillfort sites which are located in the lower reaches of the Axe Valley. At Honeyditches, a late Iron Age – Romano-British settlement and road have been excavated (Pollard 1972; Miles 1977a; Silvester 1981b; Holbrook 1987), and a Roman military sea-fort has been identified adjacent to Honeyditches at Couchill (Holbrook 1987, 65-8). The Fosse Way, which at Axminster 7.5 km to the north is aligned on the Roman fort at Woodbury (Silvester and Bidwell 1984), is believed to have continued south to a Roman port at Seaton or Axmouth, though its line beyond Axminster is not

currently proven (Maxfield 1986; Weddell et al. 1993). The road, in whole or in part, may have utilised the line of a pre-existing route. Three hillforts overlook the Axe as it nears the coast: Seaton Down hillfort (Hutchinson 1868; DeHER SY29SW/158), Hawksdown Camp (Hutchinson 1868; Fox 1996, 35), and Musbury Castle hillfort (Fox 1996, 44).

Comments

Seaton is located at the interface between the lands of the Dumnonii and the Durotriges. Inland access was provided by the route of the Axe. Silvester (1981b, 78) recorded a "long-standing tradition" that the Axe was formerly up to 700 m wide, that would provide a sheltered estuary of considerable size. The constriction of the river, due to the accumulation of a pebble bar across its mouth, was attributed to the post-Roman period (*ibid*; Pulman 1875, 840). Pulman also recorded William Stukeley's observation of anchors and other objects, including nails, that had been found amongst the salt marshes that developed as the Axe constricted (see Parkinson 1985; Silvester 1981b, 78; Dixon and Turton 1995).

Several sites relevant to the nodal model are located on the lower reach of the Axe. Honeyditches was the site of a Romano-British settlement and associated road (Pollard 1972; Miles 1977a; Silvester 1981b; Holbrook 1987). Excavation showed that the area had been occupied continuously through the late Iron Age and Romano-British periods (Silvester 1981b). The site lies approximately one kilometre from the sea on the western slope of the Axe estuary, with views across the river and to the coast. Coarse and fine wares from the Iron Age were recovered, including copies of La Tène forms. The majority of the Iron Age assemblage was dated to the fifth – third centuries BC; parallels were identified with material from Wessex and it was recorded that the Honeyditches assemblage "would not look out of place in settlements further to the east", such as Maiden Castle (*ibid, 62*).

As well as wares produced in local fabrics, the Honeyditches assemblage also contained a fragment of south-west La Tène decorated ware and two fragments of local copies (Silvester 1981b, 63). Cunliffe (1974, 43) stated that such material was introduced in the third century BC, but Miles (1977b, 106) argued that in the south-west it was in use by the end of the fifth century BC (Silvester 1981b, 63). A distinct group of Durotrigian sherds was attributed to a Dorset manufacturing source (Bidwell and Silvester *in* Silvester 1981b, 63-7), with one item of possible Gaulish origin that was suggested as a pre-Roman import (*ibid*, 66). Almost all of the forms identified at Honeyditches were paralleled with finds from Exeter, although they were attributed to an earlier, pre-Roman, date (*ibid*, 67).

Less than 500 m west of Honeyditches, a Roman fort was identified at Couchill (Holbrook 1987, 65-8), *c.*10 km south-west of the Roman fort at Woodbury (Silvester and Bidwell 1984) and the Fosse Way (Maxfield 1986; Weddell et al. 1993). Holbrook concludes that the Axe was extensively used by Roman shipping and that Couchill should be considered the as yet unlocated site of *Moridunum* (Holbrook 1987, 67-8).

Two kilometres from the coast on the western slope of the Axe is the hillfort site of Seaton Down (Hutchinson 1868; DeHER SY29SW/158), and on the opposite slope is Hawksdown Camp (Hutchinson 1868; Fox 1996, 35). Musbury Castle hillfort (two kilometres east of the Axe and four kilometres from the coast) isolates the end of a steep spur and overlooks the Axe (Fox 1996, 44). The concentration of

three hillforts within such a small area, all on the slopes of the estuary, overlooking the river and within five kilometres of the coast suggests that the riverine route to/from the coast was important during the Iron Age. It is possible that the sites were used to control or monitor access and the movement of people and goods along the river to the coast. The material recovered was sourced locally and also from neighbouring regions and across the Channel. This suggests that the area of Seaton operated within the local, regional and international maritime networks that extended along and across the English Channel. The combination of the physical characteristics of the area and the known sites and finds determined the classification of the area as a 'probable' coastal node.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
22	Seaton	x			x	x	x		?		x	x	x		xx	

Conclusion

'Probable' site

Sidmouth (Site 23)

Location

OS NGR: 312900 087400
Sidmouth parish, Devon

Physical setting

The underlying geology comprises Triassic pebble beds topped by sandstone, mudstone and barren heath (Edmonds et al. 1975, 58; 59). The more fertile Greensands appear north of Sidmouth and run to the Blackdown Hills (*ibid*, 68-70). The river Sid flows over 12 km through a narrow valley from its source near Gittisham. The valley is deep with steep sides rising to peaks of 200 mOD. 'Fingers' of greensand ridges reach to the valley sides from the north. The lower reach of the Sid meanders through a floodplain that approaches 200 m wide. The mouth of the river has shifted through time due to the accumulation of riverine deposits.

Figure 100: Aerial photograph of Sidmouth showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Sidbury Castle: multivallate hillfort, enclosing *c.*0.4 ha, is located four kilometres from the coast (Fox 1996, 51).

Salcombe Hill: extensive plateau top east of the river Sid with evidence of Neolithic and Bronze Age occupation. The occupied area overlooks the coast one kilometre to the south (Pollard and Luxton 1978).

High Peak camp: Neolithic and Dark Age occupation (Pollard 1965; 1967). Located *c.* two kilometres west of Sidmouth and 500 m from the coast, this 'hillfort' has panoramic views from the south-west and north-east, as well as the southern sea approaches. Finds included a 'core' of Kimmeridge shale, a waste product from the manufacture of a lathe-turned armlet; it was interpreted as a spindle whorl (Pollard 1965, Figure 9 item 14; 53-5). As yet, there is no evidence of Iron Age or Romano-British occupation at High Peak (Pollard 1965; 1967).

Comments

Sidmouth is suggested as a 'potential' coastal node on the basis of its topographic setting, with a sheltered harbour/beaching area at the mouth of the river Sid that flows inland past the commanding location of Sidbury Castle. From the hillforts along the valley, the river route to/from the coast can be observed.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
23	Sidmouth	x			x	x	x		?		x	x	x		x	

Conclusion

'Potential' site

Otterton (Site 24)

Location

OS NGR: 307650 081950
Otterton parish, Devon

Physical setting

The river Otter flows through Permian rocks on an approximately north – south route to the coast. It is a narrow waterway but has an extensive tidal reach, over two kilometres inland. To the west is a flat floodplain up to 400 m wide, whereas the eastern edge of the river runs alongside rising ground that is particularly steep at The Warren and Anchoring Hill. The river now meets the sea at Otterton Ledge, a rocky point one kilometre east of Budleigh Salterton.

Figure 101: Aerial photograph of Otterton showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

In the medieval period Otterton, which was more than three kilometres from the coast, served sea-going vessels that floated up the river to its quay (Oswald 1984; Brown and Holbrook 1989).

A late second century AD Roman site was identified at Otter Point and produced finds of pottery from Dorset, the New Forest, and the continent (Brown and Holbrook 1989; Allen and Fulford 1996; Holbrook 2001).

Enclosures (undated) have been recorded from the air along the route of the river Otter (DeHER).

Comments

Despite erosion of the coast at this point since the Iron Age (estimated to be as much as 200 m based on figures in Brown and Holbrook 1989), the extensive tidal reach of the river means that the current area of Otterton could have operated as an Iron Age coastal node, as it did in the Roman period (*ibid*) and Middle Ages (*ibid*; Oswald 1984).

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
24	Otterton	x	x		x	x	x				x	?				

Conclusion

'Potential' site

Topsham (Site 25)

Location

OS NGR: 296400 088200
Exeter, Devon

Physical setting

Topsham sits at the head of the Exe Estuary at the confluence of the rivers Exe and Clyst. The Clyst is a narrow waterway that meanders extensively from Woodbury Common, whereas the Exe extends through Devon from its source on Exmoor. Topsham gently rises from the mud flats of the estuary to the ridge of Mount Howe at *c*.20 mOD. The underlying geology at Topsham is Permian sandstone. The Exe Estuary is one of the broadest in the south-west, spanning up to 2.5 km and edged with wide mud and sand flats. The mouth of the estuary is constantly shifting around the sands of Dawlish Warren and Exmouth.

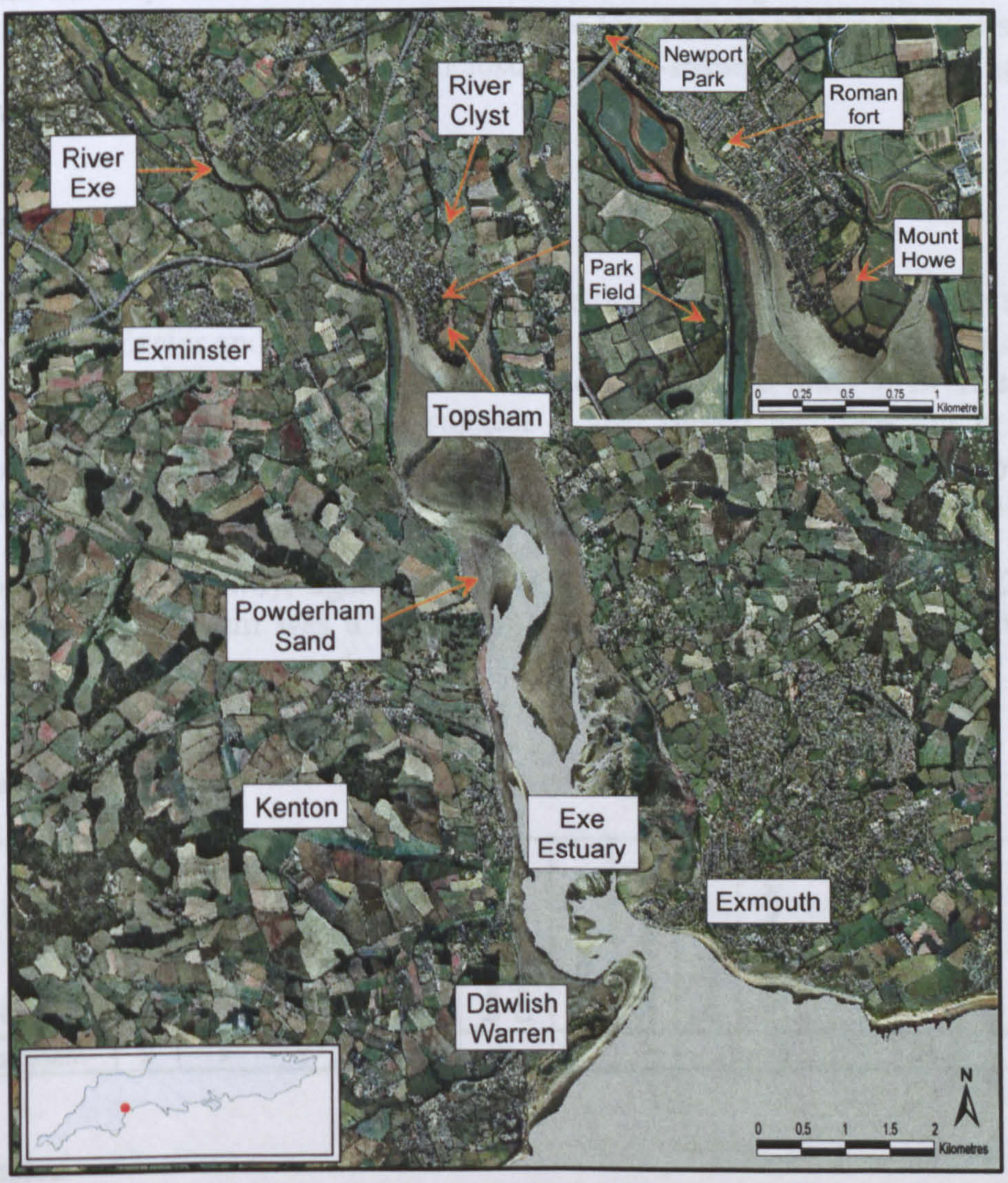

Figure 102: Aerial photograph of Topsham and the Exe Estuary showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

An Aegean bronze axe, imported during the thirteenth-century BC (possibly dating from *c.* 1250 BC) was found at Mount Howe, Topsham (Fox 1964, 83, 237 with figure), and two Bronze Age palstaves were found at Dawlish and another from Powderham Sand (DeHER SX97NE/79; SX98SE/6).

Enclosures have been identified at Topsham, Kenton, Exminster and elsewhere along the west of the Exe estuary by Devon County Council Aerial Reconnaissance Project (see Devon HER; Griffith and Quinnell 1999, map 7.4). Although these have yet to be dated it is possible that some relate to Iron Age activity in the area.

Evidence of early Romano-British (mid-first century AD) occupation was recovered by excavation opposite Newport Park (Jarvis and Maxfield 1975) with remains indicative of Iron Age four-post structures to the north (*ibid*, 215-7). Early first century AD native and imported pottery was recorded with later pottery in Park Field opposite Topsham (Montague 1935).

A Roman military base was identified at Topsham during excavation in 2000 (Exeter Archaeology 2000). It was located on the Exe Estuary so that the cliff at the water's side formed one edge to the enclosure with v-shaped ditches bounding the other three sides.

Comments

Topsham was probably a prehistoric trading settlement. It is located four miles downstream of Exeter and is known to have served the port function of the Roman town (Williamson 1959, 49; Jarvis and Maxfield 1975). The finds of Bronze Age and Iron Age material in the area suggest it also served that function in later prehistory. The early use of Topsham as a supply port for the Roman military also suggests that the area already had an established port, or facilities that could be readily adapted for military use. Branigan (1973) suggested that the area was close to a pre-Roman track way, again hinting at its Iron Age use. Holbrook (2001) considered that Topsham was a nodal point in the south-west coasting network, established by the Roman period.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
25	Topsham	x	x	x	x	x	x	?	?		x	?	?		xx	2

Conclusion

'Probable' site

Teignmouth (Site 26)

Location

OS NGR: 294000 072230
Shaldon, Stokeinteignhead, Haccombe with Combe, Newton Abbot, Kingsteignton, and Bishopsteignton parishes, Devon

Physical setting

Permian with Tertiary sands, gravels and clays. The river Teign flows approximately south from Dartmoor to Newton Abbott where it turns abruptly to flow east for the final seven kilometres to the sea. The final stretch of the river is edged by wide mudflats. It meets the sea at the shifting sand bar of Teignmouth which has a wide, sandy beach, backed by red sand cliffs.

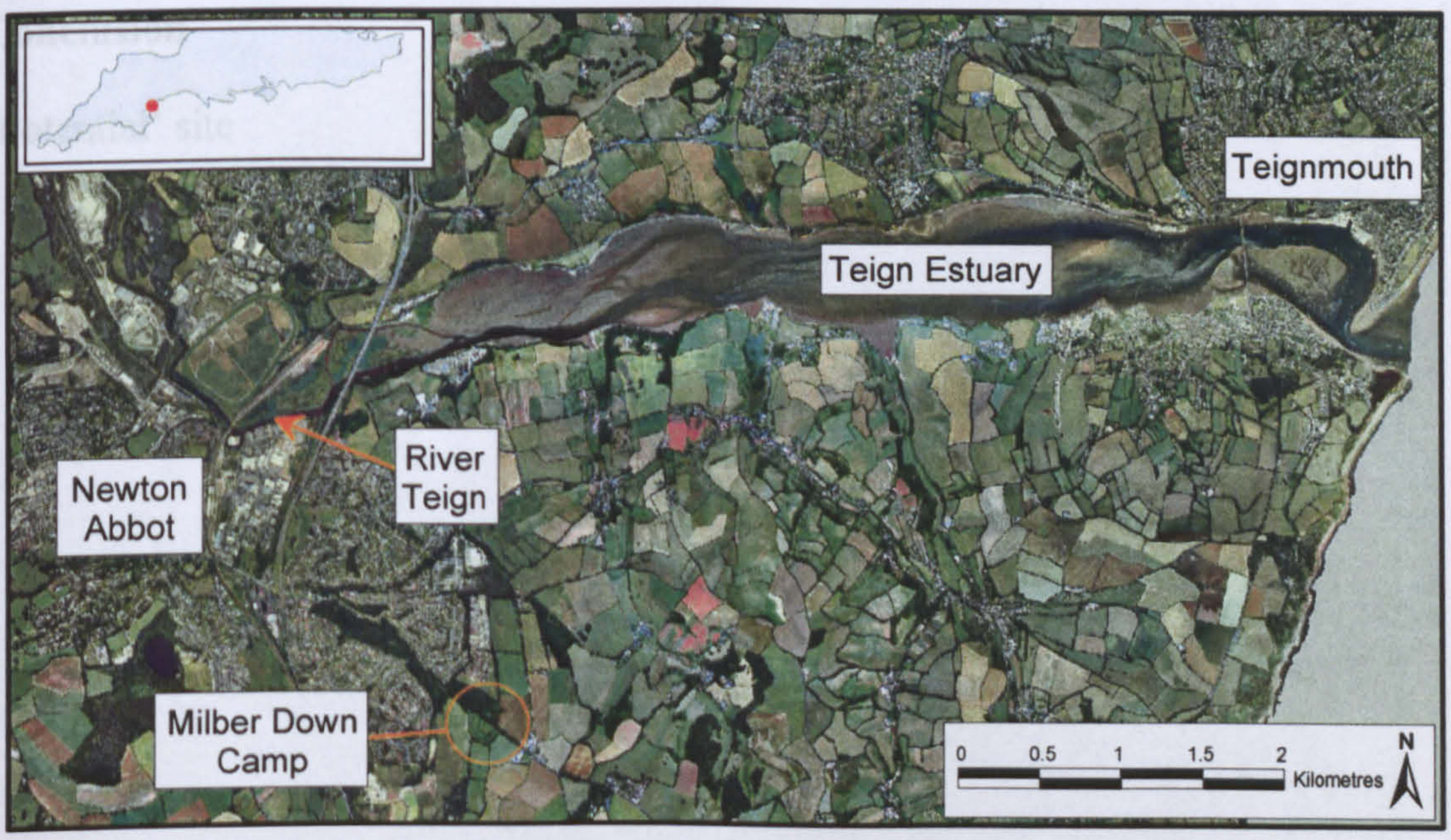

Figure 103: Aerial photograph of the Teign Estuary showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Enclosures have been identified in the area by Devon County Council Aerial Reconnaissance Project (and see Griffith 1983).

Milber Down Camp, an Iron Age settlement, lies within a complex multiple bank earthwork system, although this is not considered defensive (the 'hillfort' is on a slope, 35 m below the hill summit and falling a further 30 m within its defined extent (Fox 1996, 42)). Middle – late Iron Age south-western pottery was recovered during excavation with three bronze zoomorphic figures (a bird, stag and duck) (see Fox et al. 1949).

Comments

The clear approach to, and long inland access via, the Teign would recommend this area for use by prehistoric travellers. The presence of the Milber Down hillfort on high ground (*c.* 110 mOD), just two kilometres from the river, heightens the possibility that this area was a maritime node used in the Iron Age.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
26	Teignmouth	x			x	x	x				x	x	x		x	

Conclusion

'Potential' site

Tor Bay (Site 27)

Location

Paignton Harbour OS NGR: 289600 060240
Torbay Unitary Authority and South Hams District, Devon

Physical setting

Devonian rocks with Permian outcrop at Paignton. The sweep of Tor Bay measures *c.*16 km between Brixham in the south and Hope's Nose in the north. It is sheltered from the west by the South Hams and from the south by the protrusion of the Brixham headland. The bay is clear of navigational hazards and has wide, sandy beaches at Broad Sands, Goodrington Sands, Paignton, Hollicombe, Livermead Sands, and near Torre Abbey. In the waters of the bay, off Hope's Nose, are two distinct islets, Thatcher Rock and Ore Stone. Inland, the shallow beaches are backed by gently rising land through which run several freshwater streams and rivulets.

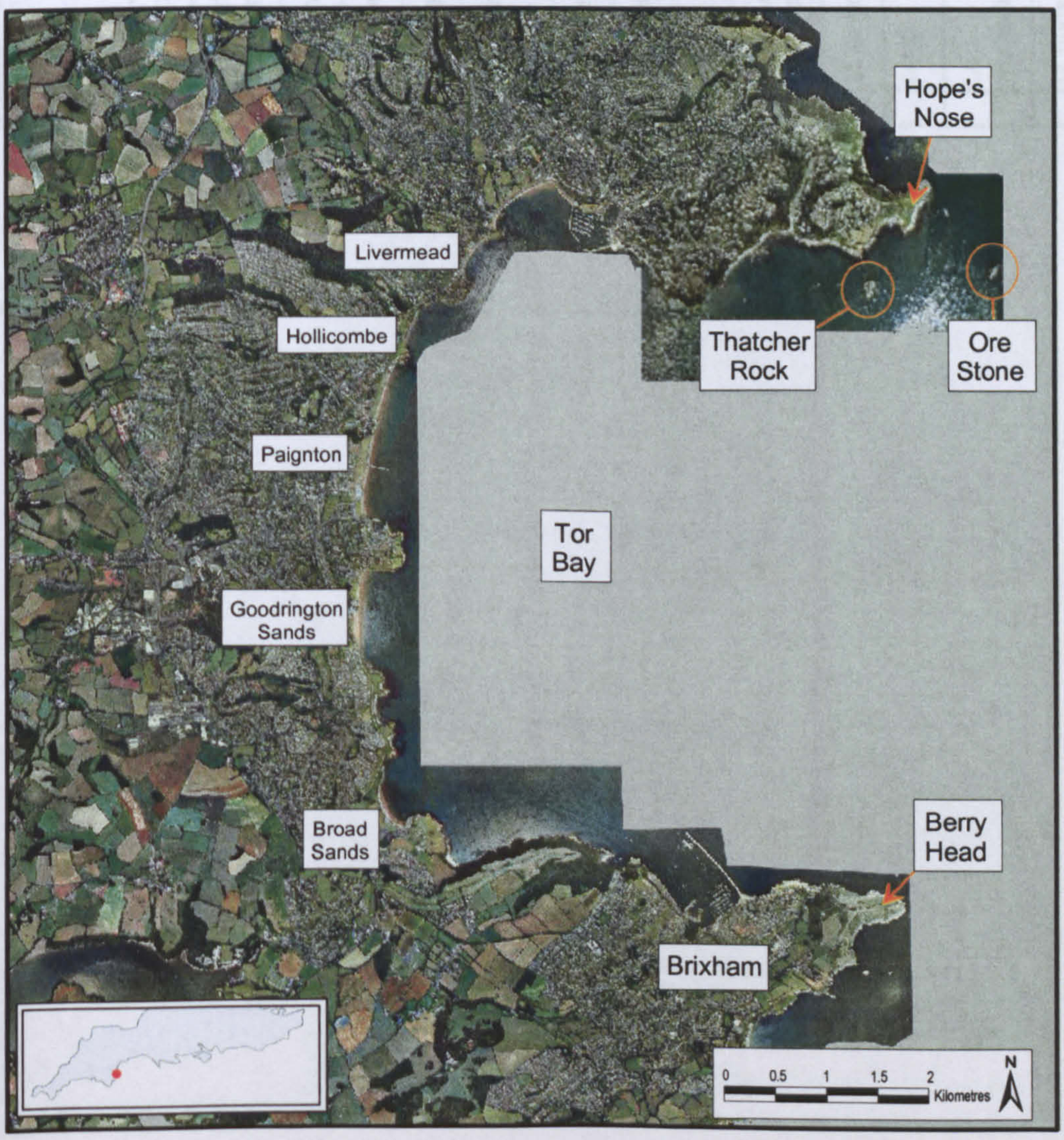

Figure 104: Aerial photograph of Tor Bay showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Berry Head univallate hillfort marks the southern extent of the Bay (DeHER SX95NW/5). Numerous enclosures identified by the Devon County Council Aerial Reconnaissance Project (see Devon HER).

Comments

The particularly sheltered waters of the bay, with numerous landing points, a hillfort marking its southern extent, and identifiable sea marks to the north, suggest that this area is a potential coastal node.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
27	Tor Bay		x	x	x	x	x			?						

Conclusion

'Potential' site

Dartmouth (Site 28)

Location

OS NGR: 287900 051300
Dartmouth parish, Devon (the lower estuary is fringed by the parishes of Dittisham, Cornworthy, Ashprington, Stoke Gabriel, and Kingswear).

Physical setting

The river Dart rises on Dartmoor and flows to the sea at Dartmouth between the steeply rising sides of a narrow estuary. The promontory at Kingswear protrudes into the estuary, sheltering the harbour area to the north. Despite the steep valley sides, beaching points are apparent at Rough Hole, Kingswear, Mill Point and Dittisham, with deep water anchorages along the length of the harbour area. The local geology is Lower Devonian Dartmouth Slates.

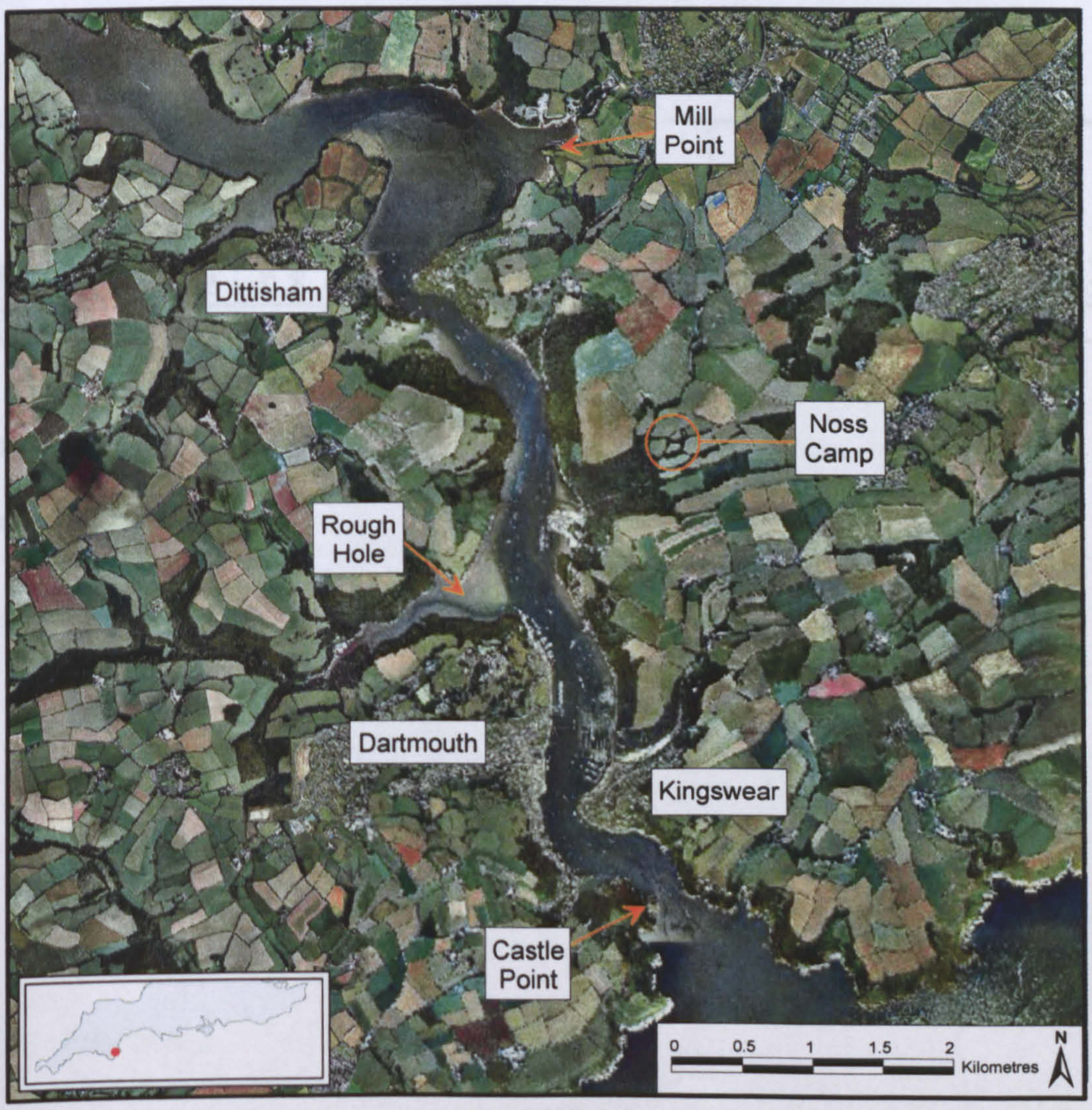

Figure 105: Aerial photograph of Dartmouth showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Noss Camp hillfort (Fox 1952; 1996, 45; Lewis et al. 1987) occupies a spur on the eastern edge of the Dart Valley, at *c.*150 mOD, one kilometre from the river Dart.

Enclosures (undated) have been identified from the air on both sides of the Dart valley along the lower reaches of the river (DeHER).

Comments

Dartmouth provides a sheltered stretch of deep water with anchorages and landing points suitable for all types of prehistoric vessel. The approach to the estuary from Start Bay is clear of hazards and the river leads deep into Devon to Dartmoor. The harbour area is particularly sheltered and suitable as a safe haven due to the protection afforded by Castle Point and Kingswear. Noss Camp, an Iron Age multivallate hillfort, is located on a spur overlooking the harbour and up-river approach.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
28	Dartmouth	x	x		x	x	x				x		x			

Conclusion

'Potential' site

Kingsbridge Estuary (Site 29)

Location

Mouth of estuary OS NGR: 274100 039200
Salcombe, Malborough, West Alvington, Kingsbridge, Charleton, South Pool, and East Portlemouth parishes, Devon

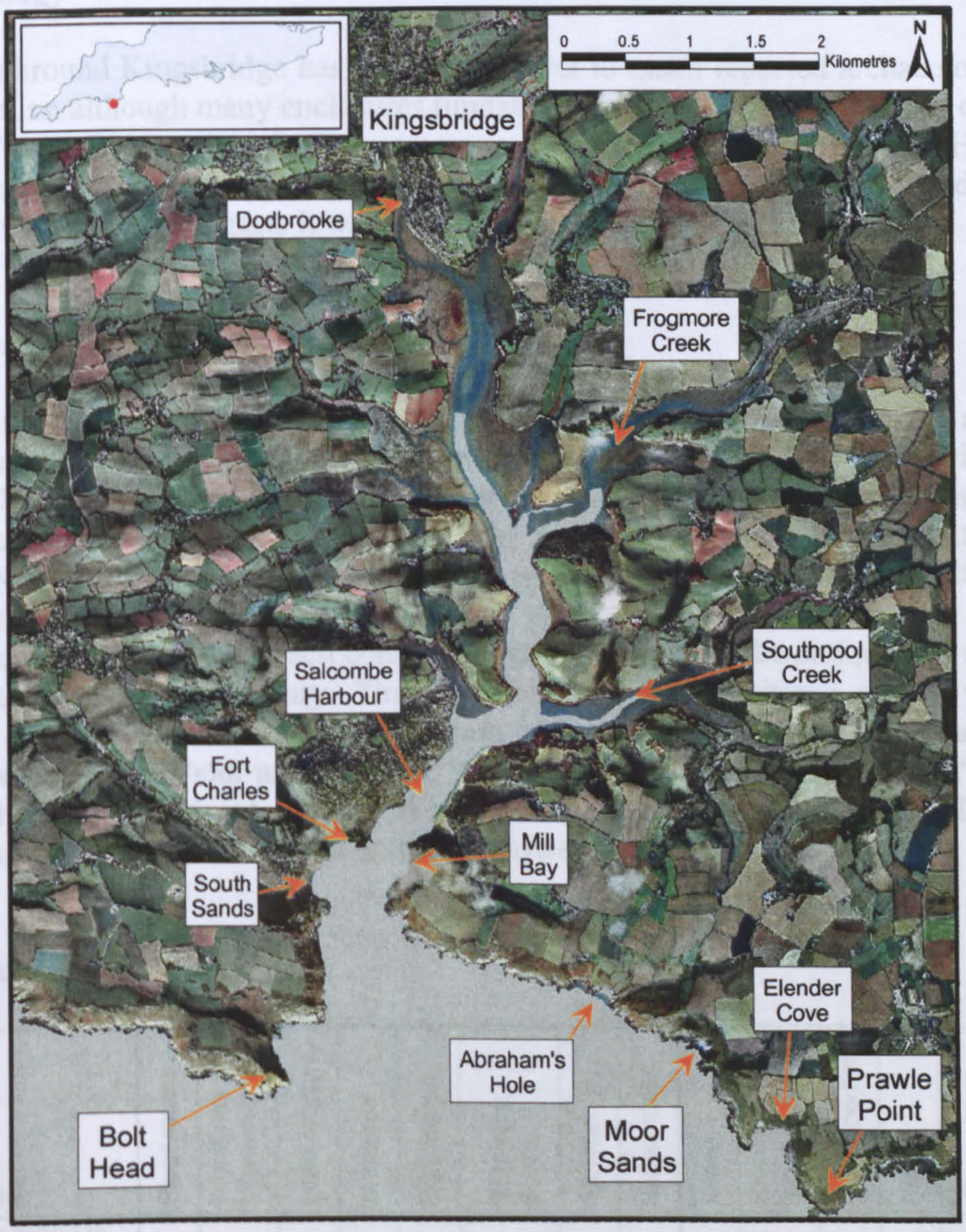

Figure 106: Aerial photograph of Kingsbridge Estuary showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Physical setting

Lower Devonian geology. The entrance to the estuary is marked by the opposing points of Bolt Head and Prawle Point from where it runs seven kilometres north inland to Kingsbridge. Salcombe Harbour lies immediately within the entrance and

the estuary is fed by Southpool Creek, Frogmore Creek, and Dodbrooke and an unnamed rivulet that meet south of Kingsbridge at the head of the estuary. The main estuary is fringed by extensive intertidal muds, up to 700 m wide in places. Nearer the coast, at Salcombe Harbour, the water flows between steeply rising cliffs with sand beaches at Mill Bay, South Sands, and Fort Charles. The wider estuary mouth is dominated by sheer cliffs with small sandy coves at Abraham's Hole, Venerick's Cove (Moor Sands) and Elender Cove.

Archaeology

The area around Kingsbridge has not been subject to much reported archaeological investigation although many enclosures (undated) have been identified as part of the Devon Aerial Reconnaissance Programme in the vicinity of the estuary (DeHER). The Moor Sands Bronze Age 'wreck' site (Muckelroy 1980; 1981) just outside the mouth of the estuary suggests it was part of the ancient maritime network.

Comments

Known as "a great port that never was" (Calder 1986, 300), Salcombe sits at the mouth of the Kingsbridge Estuary that gives access to several miles of navigable water. The harbour lies between Dartmouth to east and Plymouth to west, and has greater access to the interior than Dartmouth. However, a sand bar across entrance has scarcely one metre of water over it at low tide, making the approach difficult (Williamson 1959, 136). A Bronze Age wreck near the entrance may have foundered in the tricky approach conditions but is evidence of the antiquity of use of the routes to/from the estuary. This area benefits from sheltered waters which provide access to the interior of the South Hams, safe anchorages and beaching points within the harbour and estuary. It has been suggested as a 'potential' node due to those natural advantages and its position on the extreme south point of Devon that would be a useful safe haven on the south-west coasting routes.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
29	Kingsbridge Estuary	x			x	x	x				x	?				

Conclusion

'Potential' site

Bigbury Bay (Site 30)

Location

OS NGR: 265600 043900
Holbeton, Kingston, Ringmore, Bigbury, Thurlestone, South Milton and South Huish parishes, Devon

Physical setting

The bay stretches for *c.*15 km between Bolt Tail in the south and Mothecombe in the north in an area of Lower Devonian slates and shillets. Along its length the rocky shore is interspersed with flat, sand beaches, notably at Thurlestone, Bantham and Challaborough, and sheltered coves at Hope Cove and Aymer Cove. The coastline is broken by the wide estuary mouths of the rivers Erme and Avon that both rise on Dartmoor. Off shore from Bigbury on Sea, immediately west of Bantham, is Burgh Island which is connected to the mainland by a natural compacted sand causeway *c.*250 m long. South of the Avon the land rolls north and south between high ridges, oblique to the coast, which rise to *c.*100 m. North of the Avon, the land rises more steeply away from the coast to *c.*120 m.

Archaeology

Bolt Tail promontory fort marks the southern end of the bay. It has not been excavated, but a single earthwork bank is still upstanding which isolates *c.*5 ha of the promontory (Fox 1996, 21-2). Immediately east of Bolt Tail is Hope Cove where a possible Iron Age metal working site was recorded (Winder 1924b, 124).

Bronze Age metalwork has been recovered from Thurlestone (DeHER SX64SE), and the mould for a palstave axe was found on Burgh Island (Pearce 1983, 433).

Dark Age and possible Iron Age sites have been partially investigated at Bantham (Griffith 1986a; Griffith and Reed 1998) and Mothecombe (Fox 1961b, 80; DeHER SX64NW/2). Offshore from Mothecombe, at West Mary's Rock, tin ingots were recovered from the seabed which are possibly of prehistoric date (Fox 1995).

30 enclosures have been identified within five kilometres of the coastline of the bay (Griffith and Quinnell 1999; Table 19). Also within five kilometres of the coast are the Iron Age hillforts of Yarrowbury and Holbury (see A Fox 1958, 222-4).

Comments

The antiquity of use of the Bigbury Bay area is attested by the finds of Bronze Age and Iron Age material. Burgh Island has been suggested in previous studies as the location of *Ictis*, the Bronze Age tin exporting site named by Diodorus (V.22.2) (Davis 1997; see Chapters Three and Eight). The tin ingots found at the mouth of

the Erme have enhanced speculation that the area was indeed involved in international trade in metals and perhaps other goods (McDonald 1993; Davis 1997) in later prehistory, although as the ingots are currently undated, their association with prehistoric activity cannot be confirmed.

Bigbury Bay was investigated and confirmed as a 'potential' Iron Age coastal node as part of this research (see Chapter Eight). The combination of landmark features (Bolt Tail, the Long Stone and Burgh Island), known Iron Age activity and finds, and the possible association with high ground enclosures, suggested that Bigbury Bay was a suitable nodal location.

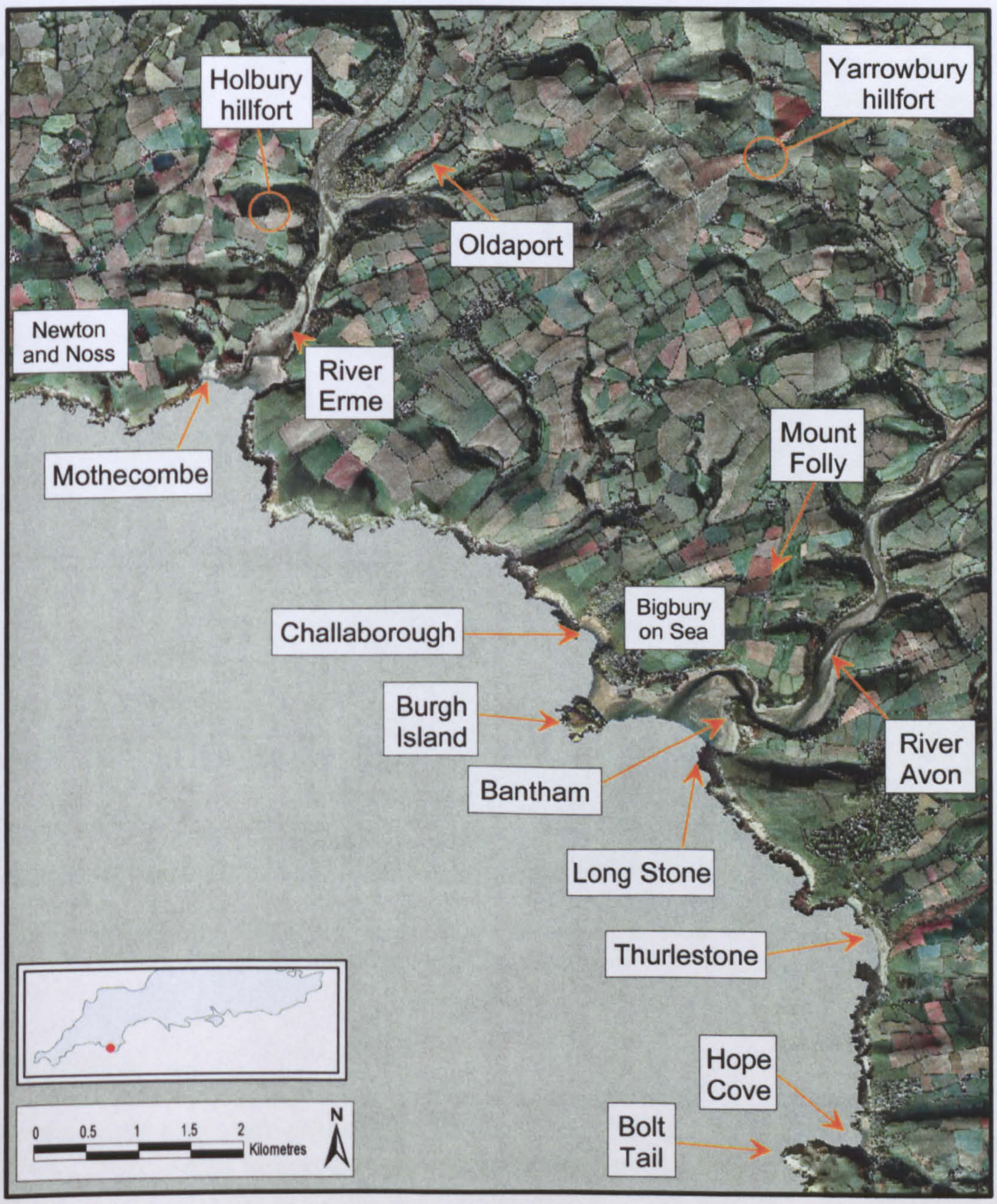

Figure 107: Aerial photograph of Bigbury Bay showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
30	Bigbury Bay	x	x	x	x	x	x	?	?	x	x	x	x	?	x	

Conclusion

'Potential' site

Wembury Bay (Site 31)

Location

OS NGR: 250100 048250
Wembury parish, Devon

Physical setting

An area of Lower Devonian rocks comprising Wembury Siltstones of shale slate and siltstone (Edmonds et al. 1975, 25). Located to the south-east of Plymouth Sound, and bounded to the south and east by the river Yealm that flows into Wembury Bay. The Great Mew Stone, an islet of *c*.4 ha, lies 600 m off shore from Wembury Point.

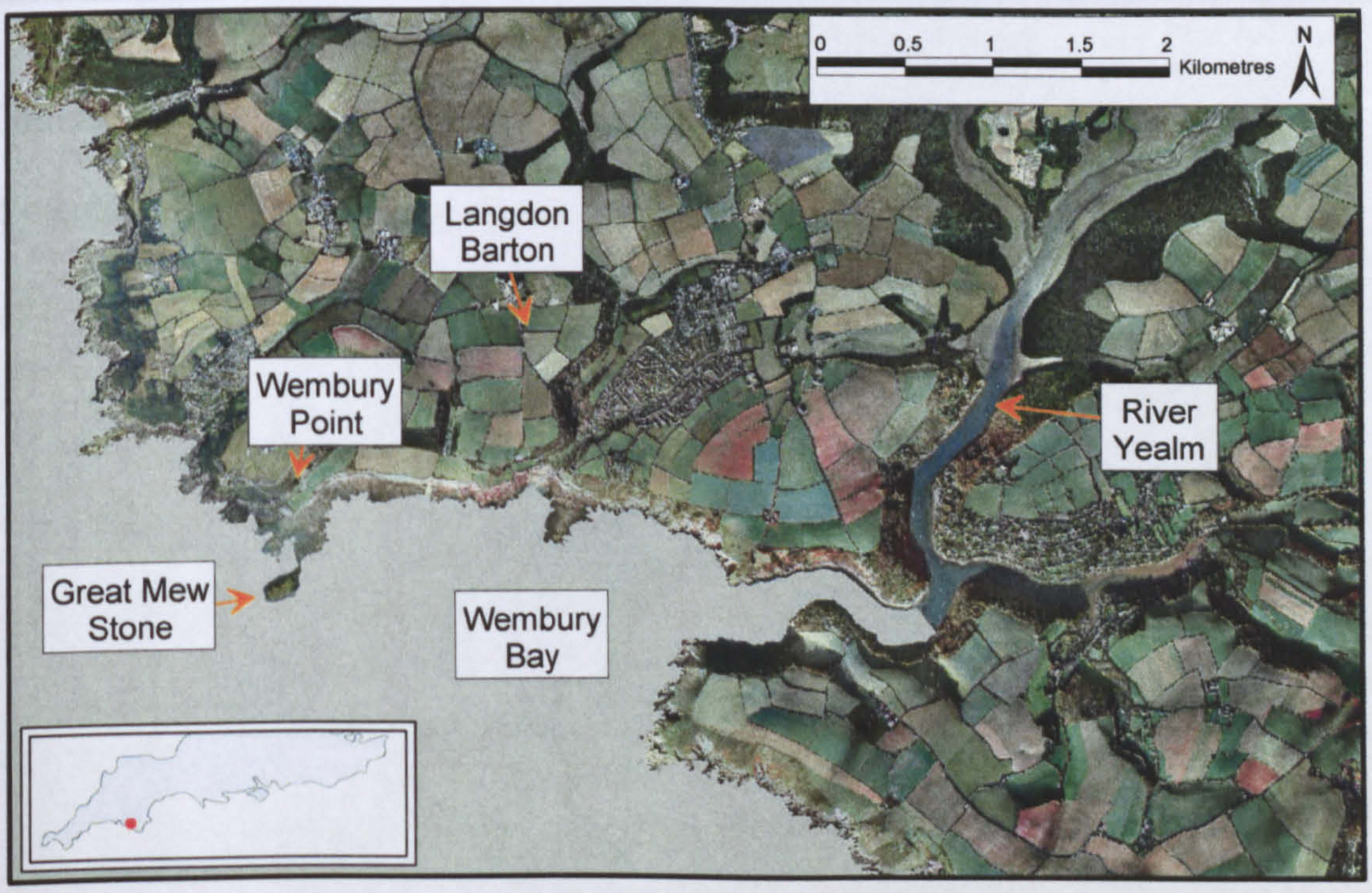

Figure 108: Aerial photograph of Wembury Bay showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

A trapezoidal cropmark (undated) was recorded *c*.800 m from the shore at Langdon Barton by the Aerial Reconnaissance Programme (DeHER).

Dark Age features (ditches and gullies), with similarities to the sites at Bantham and Mothecombe, have been recorded on the beach (Reed 2003).

Comments

The location of Wembury is signified from the sea by the Great Mew Stone which also offers a sheltered landing spot for small craft. Inland access to Dartmoor is provided by the route of the river Yealm.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
31	Wembury	x		x		x	x			x	x					3

Conclusion

'Potential' site

Mount Batten (Site 32)

Location

Centre NGR: 24865 05325
Within Plymouth Unitary Authority

Physical setting

Mount Batten is a promontory of Devonian limestone, maximum elevation *c.*26 mOD, on the north-east shore of Plymouth Sound, where the River Plym enters The Sound at Cattewater. It is connected to the mainland by a low-lying isthmus that could flood at high tide (until the Plymouth breakwater was built in 1812). North of the isthmus is Clovelly Bay; south is Batten Bay. The land rises to the south first to Stamford Hill (*c.*40 mOD) then to Staddon Heights (*c.*135 mOD). As at Portland (but not as extensively) Mount Batten has suffered from nineteenth century quarrying - much of the mound of the mount has now disappeared; the land that remains is heavily built over, mainly by military buildings and the civilian structures that have replaced them.

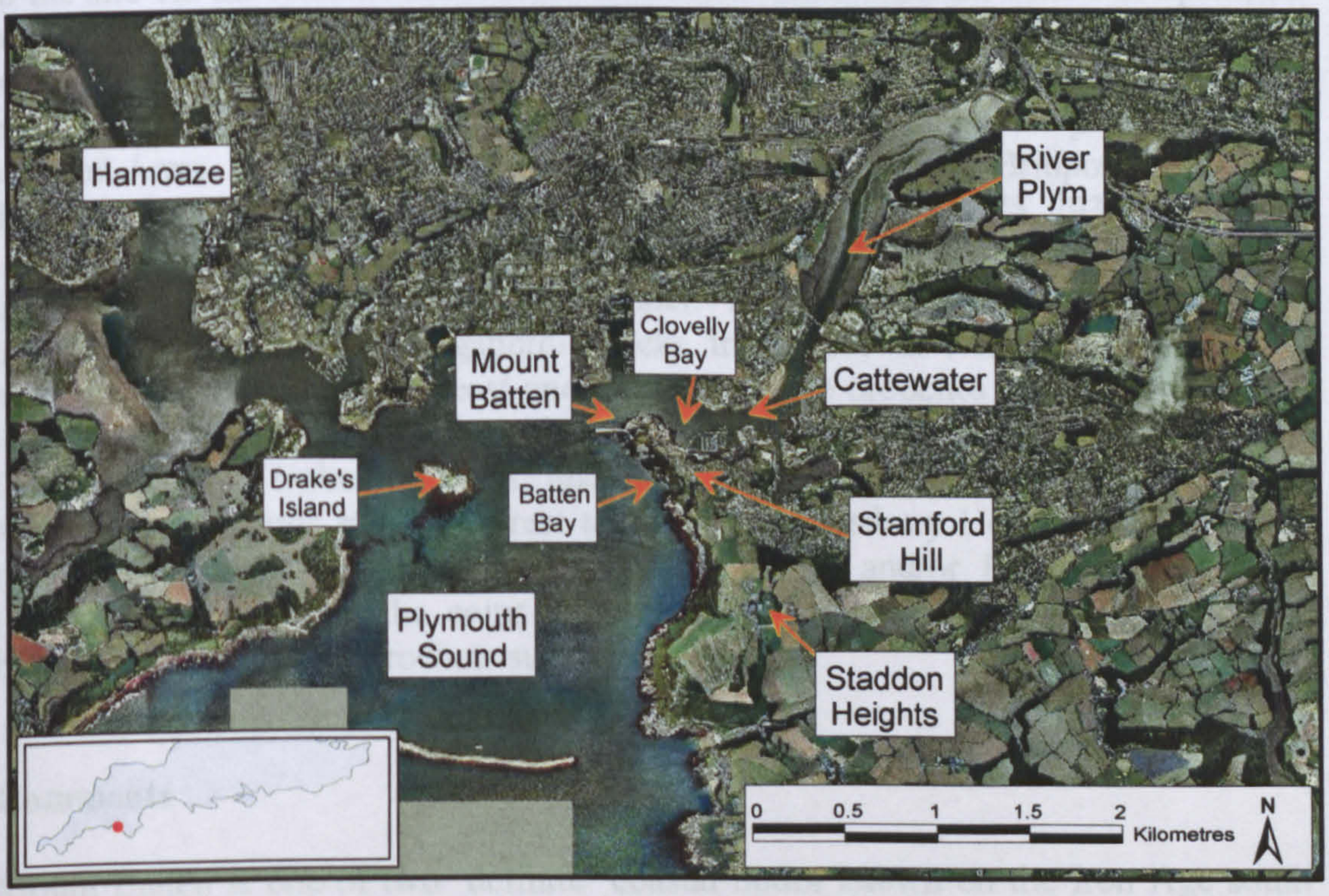

Figure 109: Aerial photograph of Mount Batten and Plymouth Sound showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

After years of limited amateur salvage recording, the area of Mount Batten was excavated by Barry Cunliffe between 1983-6 (Cunliffe 1988a) and more recently by AC Archaeology (Gardiner 2000).

An impressive range of metalwork, including material from the Ewart Park and Llynfawr phases (late Bronze Age II - III) (roughly equivalent to continental Hallstatt B2/3 and Hallstatt C), *c.*900-600 BC has been found here. Armorican axes were recovered by excavation and were interpreted as indications of trade with Brittany - possibly directly with the ports of northern Finistère (Cunliffe 1988a) or possibly via third parties.

Finds from the 'Mount Batten phase' of metalwork are concentrated in the Penwith peninsula of Cornwall and in the Portland-Weymouth Bay region of Dorset (see Pearce 1983, figure 4.24). The coastal distribution from Mount Batten is clear and Cunliffe commented that "Since both Penwith and Mount Batten are metal-rich regions, it would be tempting to see them as production centres trading their yields eastwards to Wessex using Portland/Weymouth as the first and prime port of entry. This Wessex coast link is one which recurs in later centuries" (Cunliffe 1988a, 103).

Iron Age metal artefacts found at Mount Batten imply widespread continental contact at that time (Cunliffe 1988a). The Iron Age cemetery on Stamford Hill, adjacent to Mount Batten, contained an Iberian fibula that would have been brought to the site via the Atlantic sea routes. It matches items from La Tène I in Spain, so probably arrived in Britain during the fourth century BC (Cunliffe 1975, 147). Also in the cemetery, a rich female cist burial contained grave goods including a Celtic mirror (Fox 1964, 134), beads, and a bronze bowl. The mirror has parallels at the sites of Arras in West Yorkshire, Birdlip in Gloucestershire, Bridport in Dorset, Trelan Bahow in Cornwall, and Colchester in Essex (Cunliffe 1975, 293).

Finds of regionally imported material suggest that Mount Batten was a key link in east - west trade routes along the Channel. Many of the decorated pots found at the site have inclusions of gabbroic rocks that occur in western Cornwall (for example, at the Lizard). At least one of the Iron Age brooches was probably made in Wessex (Cunliffe 1988a). Over 40 Armorican (especially Coriosoliten), Durotrigian, and Dobunnic coins, and finds of Kimmeridge shale and two small Armorican potsherds suggests direct trade with Hengistbury Head or other sites in the central coastal region (possibly Poole Harbour and/or Portland). Cunliffe (1998a) suggested that the coins were shipped west from Hengistbury Head as bullion with other local products such as shale.

Comments

Mount Batten is one of two 'definite' coastal nodes known on the Iron Age south coast of Britain. It has been interpreted as a major site of along- and across-Channel trade, controlling the movement of metals from the Dartmoor fringes along the Rivers Tamar, Tavy, and Plym (Cunliffe 1988a, 103), as well as metals from south-eastern Bodmin Moor (Fox 1964, 114) and other products from the hinterland. It experienced continual use as an ideally sited 'port of trade' from the late Bronze Age into the Romano-British period (*c.*800 BC – AD 50 and possibly beyond). The antiquity of use of Mount Batten is suggested by its occupation by metal workers using local and imported metals to produce bronze items. The location was suitable

for commanding ores from the nearby Dartmoor fringe and overseeing movements of scrap metal and other goods along the Channel seaways from Cornwall or Brittany. It is located at the rear of Plymouth Sound, and protects the safe anchorage of Cattewater (Cunliffe 1988a, 103). There are beaching points at Clovelly and Batten Bays.

Mount Batten is another south coast site which has been suggested as the location of *Ictis* (Cunliffe 1983; McGrail 1995a, 276-7). Both Cunliffe and McGrail argue that the archaeological evidence from the site suggests it as a more likely location than St Michael's Mount. The finds indicate it was involved in international trade during the period of the fourth century BC – first century AD. Tin and copper from extraction sites at Dartmoor and perhaps at Callington were easily brought to Mount Batten by boats travelling down the Rivers Tay and Tamar (McGrail 1995a, 276-7). An ingot of metal from the area of Callington was found at Hengistbury Head, attesting to the links between the central and south-west sectors (see Fox 1964, 130).

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
32	Mount Batten	x	x	x	x	x	x	x	x	x	x		x	x	xx	1

Conclusion

'Definite' site

Tamar Estuary (Site 33)

Location

OS NGR: 244000 056000 (Hamoaze)
Bounded by the parishes of Maker with Rame, Millbrook, Torpoint, Antony, Saltash, Landulph, Pillaton, and St Dominick in Cornwall, and Bere Ferrers and Bickleigh parishes and the Unitary Authority of Plymouth in Devon.

Physical setting

Plymouth Sound is fed from the west by Hamoaze, that in turn is fed by the Lynher, Tamar and Tavy rivers and their tributaries. The Tamar cuts back through rocks of the Lower, Middle and Upper Devonian and marks the boundary between the counties of Cornwall and Devon. In the Sound is the rock islet of Drake's or St Nicholas' Isle.

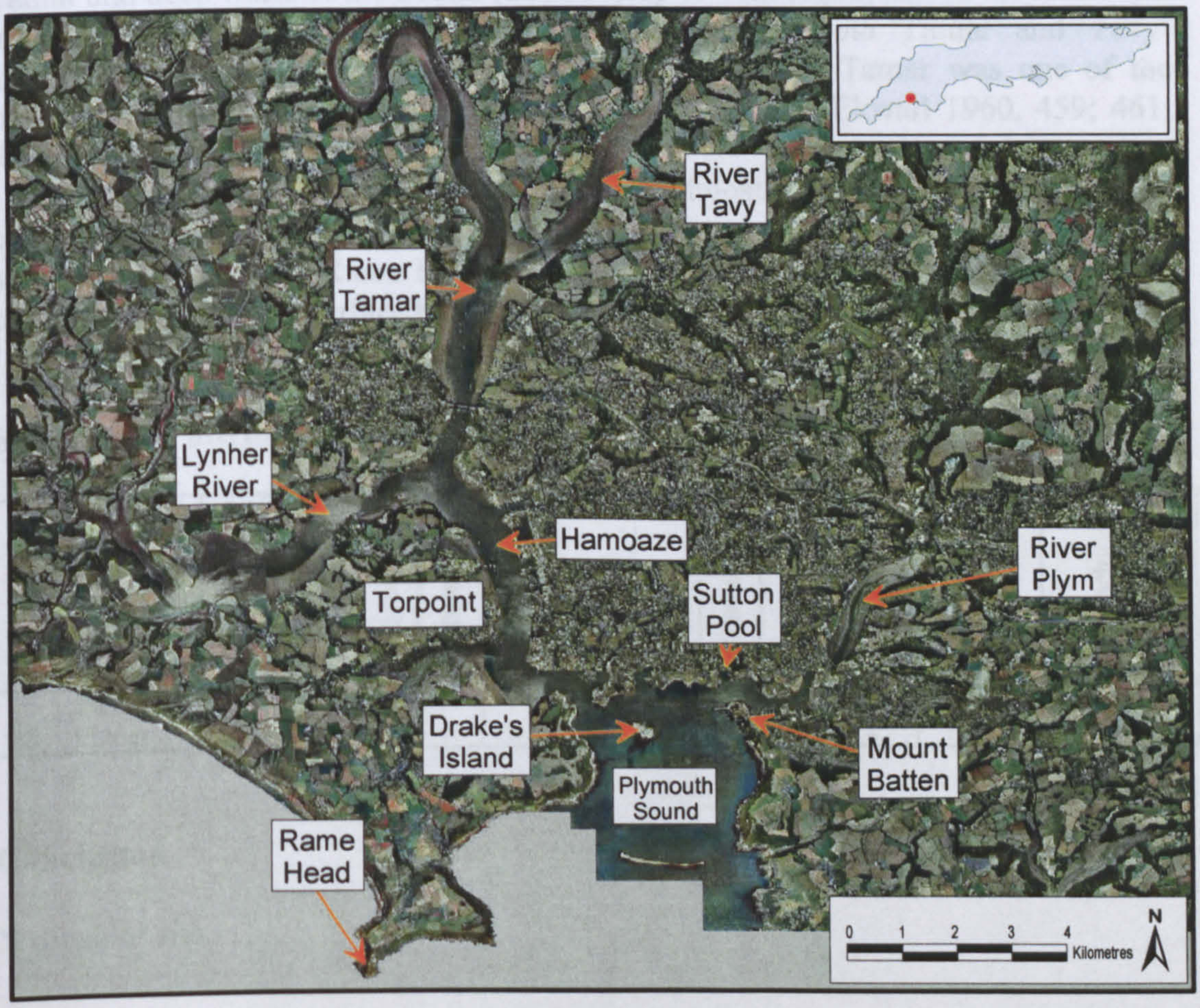

Figure 110: Aerial photograph of the Tamar Estuary showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

The distinctive land mark of Rame Head promontory fort lies at the western entrance of Plymouth Sound. In a review of the estuary's archaeology, Firth et al. (1998, 28) concluded that most Iron Age activity was concentrated to the west of the Tamar, including a number of univallate and multivallate enclosures. However, an Iron Age settlement was proposed at Sutton Pool (on the edge of the Sound, north of Mount Batten) (*ibid*, 30) and aerial reconnaissance has identified enclosures (albeit as yet undated) at various places along both sides of the estuary (F Griffith, pers. comm.). Continental imports have been recovered from Torpoint.

Comments

It has been suggested (Firth et al. 1998, Table 1), that the Iron Age (0 BC) MSL in the area of the Tamar Estuary was 0.5 mCD (that is approximately equivalent to -2.72 mOD), which would further suggest a rise of 2.72m to present day levels. Even with a level approaching three metres below today's the large catchment of the Tamar and deep water of the Sound (currently up to 40m depth) meant the rivers and inland routes were easily accessible to Iron Age vessels. Both 'Tamar' and 'Tavy' are considered to have originated as British river-names; Tamar was one of the rivers named by Ptolemy on his map of southern Britain (Ekwall 1960, 459; 461; Rivet and Smith 1979, 465).

The great extent of inland access, reaching almost to the north coast of Devon, combined with the sheltered anchorages, beaching points and known sites of the area (e.g. Sutton Pool, Rame Head, Mount Batten) suggest the Tamar Estuary as a probable node in the interface between the coastal and riverine networks.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
33	Tamar Estuary	x			x	x	x	?	?		x	?	x			2

Conclusion

'Probable' site

Looe Bay (Site 34)

Location

OS NGR: 225700 053000
Looe parish, Cornwall

Physical setting

Lower Devonian geology. The East and West Looe rivers converge at a point approximately one kilometre from the coast where a small, sandy beach at the mouth of the river is one of only two small breaks in the rocky shore in the *c*.25 km between Fowey and Seaton (the other break is Millendreath Beach just 1.3 km to the east). Inland access along the rivers leads to Bodmin Moor.

Separated by a small channel, off shore is St George's Island (also known as Looe Island), the largest island off the Cornish coast (Todd 1987, 187). (NB: Todd (*ibid*) states that the island is 1.5 km off shore, whereas the HWM of the island and adjacent mainland coast at Samphire Beach are just 650 m apart.)

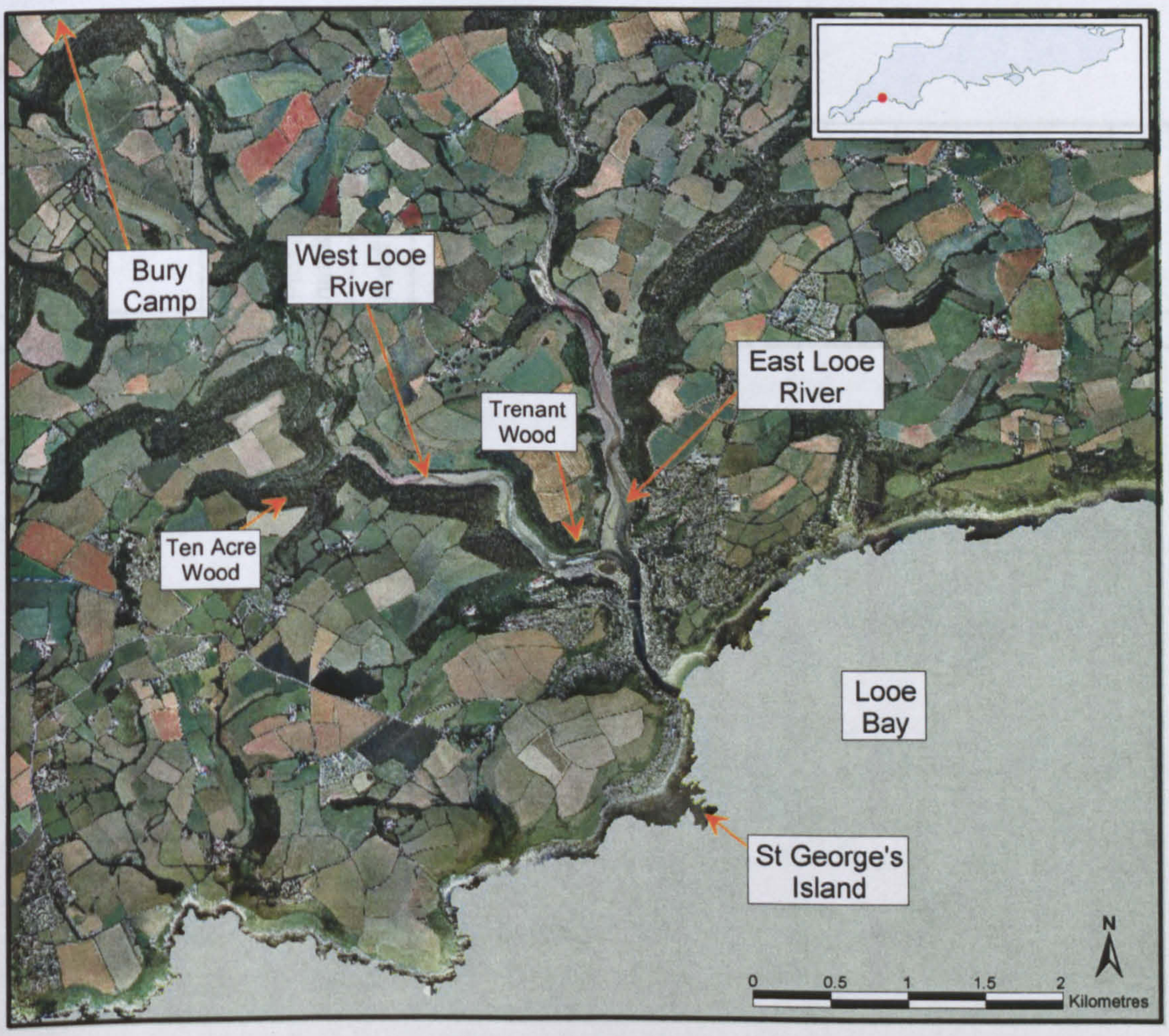

Figure 111: Aerial photograph of Looe Bay showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Bury Camp (Lanreath parish) multivallate hillfort at the head of a tributary of the West Looe river.

A high ground enclosure / settlement above Ten Acre Wood, on a spur overlooking the West Looe river.

Comments

The combination of the off shore island and break in the rocky coast at the mouth of the river make Looe an easily identifiable location from vessels at sea. The extensive inland access afforded by the West and East Looe rivers and their tributaries meant the water routes could be followed as far as Bodmin Moor and the upland resources of that area. A bronze ingot was found amongst rocks close to St George's Island which, although undated, closely resembled Bronze Age copper ingots known from the Mediterranean and was similar to the *astragalos* ingot shape referred to by Diodorus (V.22.2) (Beagrie 1985). The island was proposed but then dismissed (due to lack of evidence) as another possible site of *Ictis* (Todd 1987, 187).

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
34	Looe Bay	x		x	x	x	x			x	x		x			

Conclusion

'Potential' site

Fowey (Site 35)

Location

OS NGR: 21230513
Fowey parish, Cornwall

Physical setting

Area of Lower Devonian geology. Fowey is on the western mouth of the Fowey Estuary which is fed by Pont Pill and the river Fowey, that in turn has tributaries leading east and north-east inland. The entrance to the estuary is protected from westerly winds by the protrusion of Gribbin Head into the English Channel and is a safe natural harbour. The narrow estuary and rivers are fringed by rapidly rising ground, with heights in excess of 100 mOD in places reached within 200 – 300 m of the shores. The Fowey is tidal as far as Lostwithiel (*c.*10 km from the coast) and further inland access is possible in shallow draught or flat-bottomed boats. Although the waterways are edged by steep ground, the deep waters provide good anchorage in the estuary and landing places are located at Readymoney (Fowey), Mixtow, and possibly at the confluence of the Fowey and Lerryn rivers at St Winnow Point.

Archaeology

The estuary and rivers are lined by high ground on which several enclosures and hillforts have been identified. On the steep rise, north of the small beach of Readymoney at Fowey, is a prehistoric enclosure (CoSMR 26707). At Castle Dore, three kilometres NNW of Fowey, and two kilometres west of the river, is a multivallate hillfort with a large enclosure *c.*500 m to the south (Radford 1951; Quinnell and Harris 1985). Both sites are on high ground locations overlooking the river Fowey and Par Sands (a large, sheltered cove and beach) to the south-west. Iron Age finds have been recovered from both sides of the estuary (for example, CoSMR 26838, 26751, 26843, 26804, 26806).

Comments

The narrow estuary at Fowey[58] provides high levels of shelter for vessels at anchor between the steep sides, and the river routes provide good access inland. The tin resources of Bodmin Moor are accessible from the river and much of east Bodmin was known as 'Fowey Moor' in the medieval period (F Griffith, pers. comm.).

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[58] The origin of the name 'Fowey' is disputed. Ekwall (1960, 185) believes that it is derived from the Celtic/Breton word for 'beech' and is considered to denote 'beech river'. The use of trees is a common maritime location identifier. However, Padel (1988, 95-6) states that it is probably derived from a personal name.

From the river Fowey, an overland connection of *c.* two hours' portage to the Camel provides a link between the north and south coasts of the peninsula (Calder 1986, 325-6). The connection between the Irish Sea and English Channel might have been attractive to prehistoric travellers as it shortened the journey distance and obviated the need to sail around Land's End. The importance of the route between the Camel and Fowey was explored by Radford (1951) in his examination of Castle Dore which was located in a position to command the riverine and overland routes.[59] The physical characteristics, Iron Age sites and possible extended network connections suggest that Fowey was a probable maritime node.

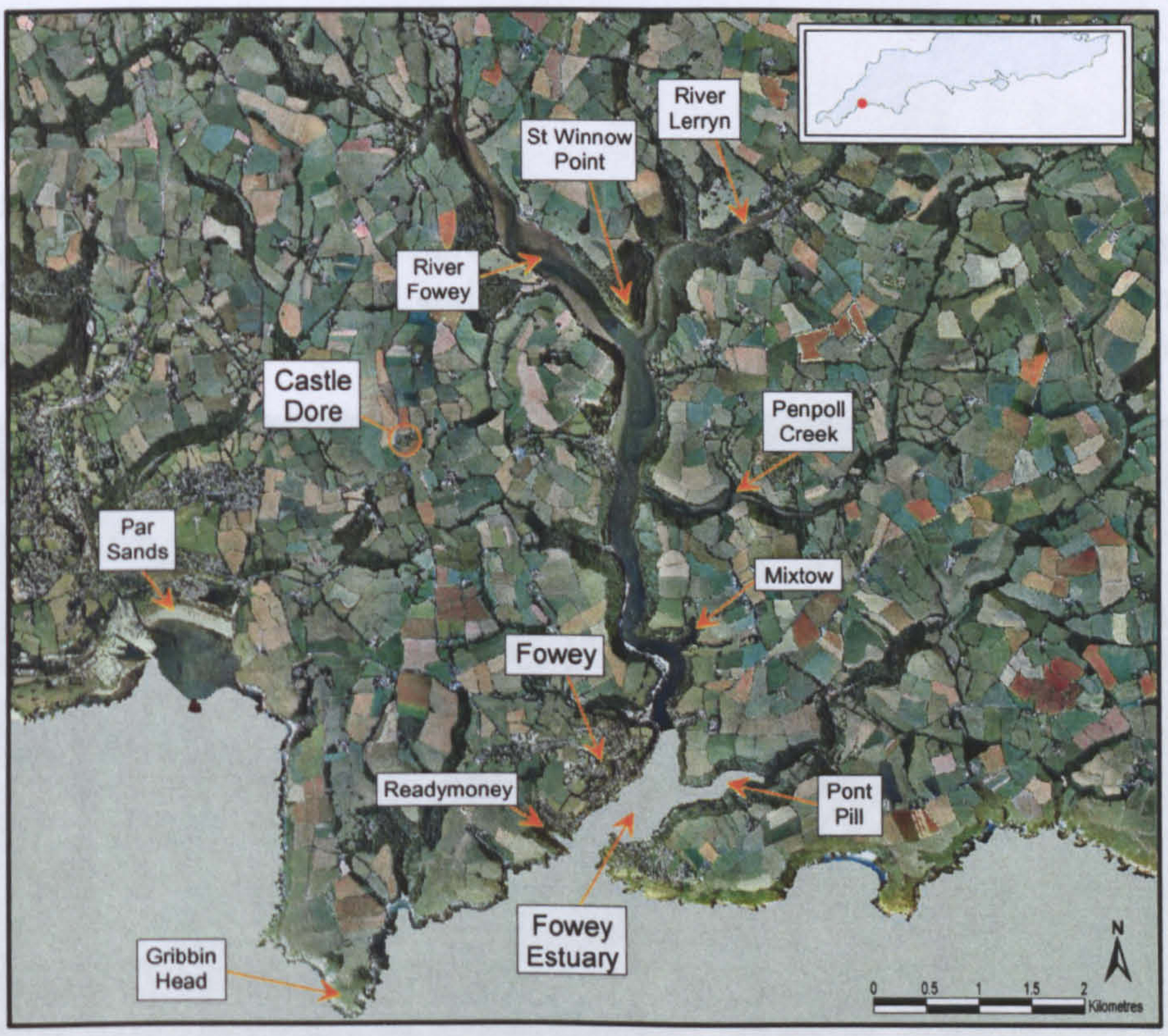

Figure 112: Aerial photograph of Fowey showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
35	Fowey	x	x	x	x	x	x	?	?		x	x	x		x	

Conclusion

'Probable' site

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[59] Radford (1951) considered that Castle Dore was essentially a post-Roman site but subsequent dating of the ceramic assemblage revealed that the main use of the site was during the fourth – first centuries BC (Quinnell and Harris 1985).

Mevagissey Bay (Site 36)

Location

Mevagissey Harbour at OS NGR: 201700 044800
Mevagissey parish, Cornwall (also fringed by St Gorran, St Ewe and St Austell parishes)

Physical setting

The area is comprised of Devonian rocks, mainly of the Lower Devonian phase. Mevagissey Bay lies half-way between Falmouth and St Austell. It is fed by the rivers Portmellon, Mevagissey, and St Austell that exit at sheltered, sandy beaches. The bay mainly has a rocky edge, but with sheltered stretches of firm sand beach.

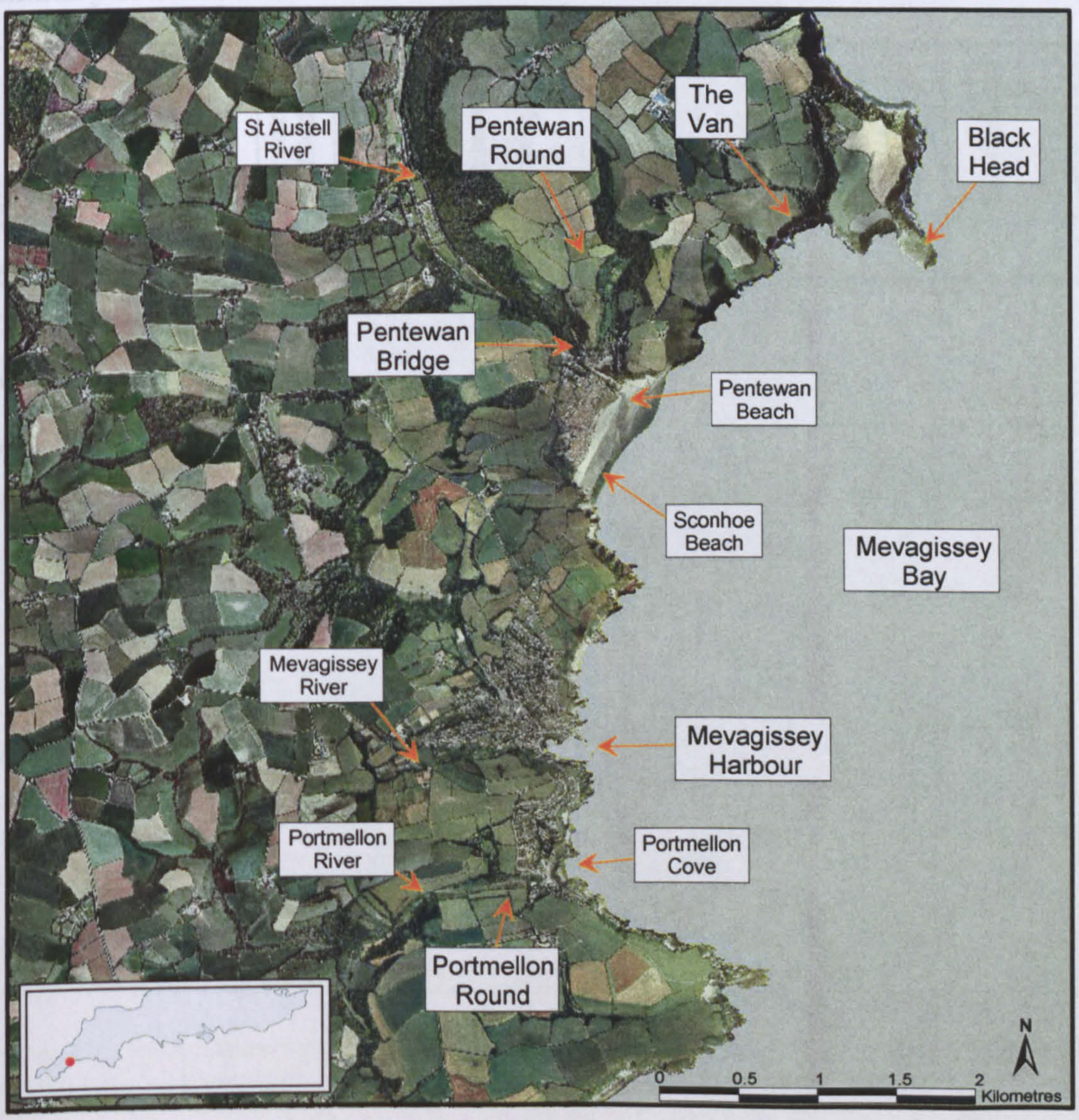

Figure 113: Aerial photograph of Mevagissey Bay showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Black Head promontory fort (CoSMR 24062)
The Van cliff castle (CoSMR 24064)
Prehistoric bridge across the St Austell river in the Pentewan Valley (CoSMR 24071)
Rounds at Pentewan (CoSMR 24070) and Portmellon (CoSMR 24008).

Comments

The coastal hillforts, good inland riverine access, landing points on the coast and sheltered anchorages are traits which match the model proposed for Iron Age coastal nodes. It is possible that Mevagissey Bay was a component in the south-west coasting network.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
36	Mevagissey Bay	x		x	x	x	x				x		x			

Conclusion

'Potential' site

Falmouth (Site 37)

Location

OS NGR: 180600 033500
Falmouth, Mylor, Feock, St Michael Penkevil, Philleigh, St Just-in-Roseland and Gerrans parishes, Cornwall

Physical setting

Falmouth lies on the north-east of Falmouth Bay at the south-western end of Carrick Roads, a large expanse of water fed by four major rivers that lead west, north, and east inland (Penryn river, Restronguet Creek, river Fal (that branches into the Truro and Tresillian rivers) and Percueil river). Falmouth is at the mouth of the Penryn River, opposite St Mawes Harbour. Its southern extreme, the rocky Pendennis Point, juts out into the water sheltering the harbour to the north. The area comprises Devonian rocks (see Edmonds et al. 1975).

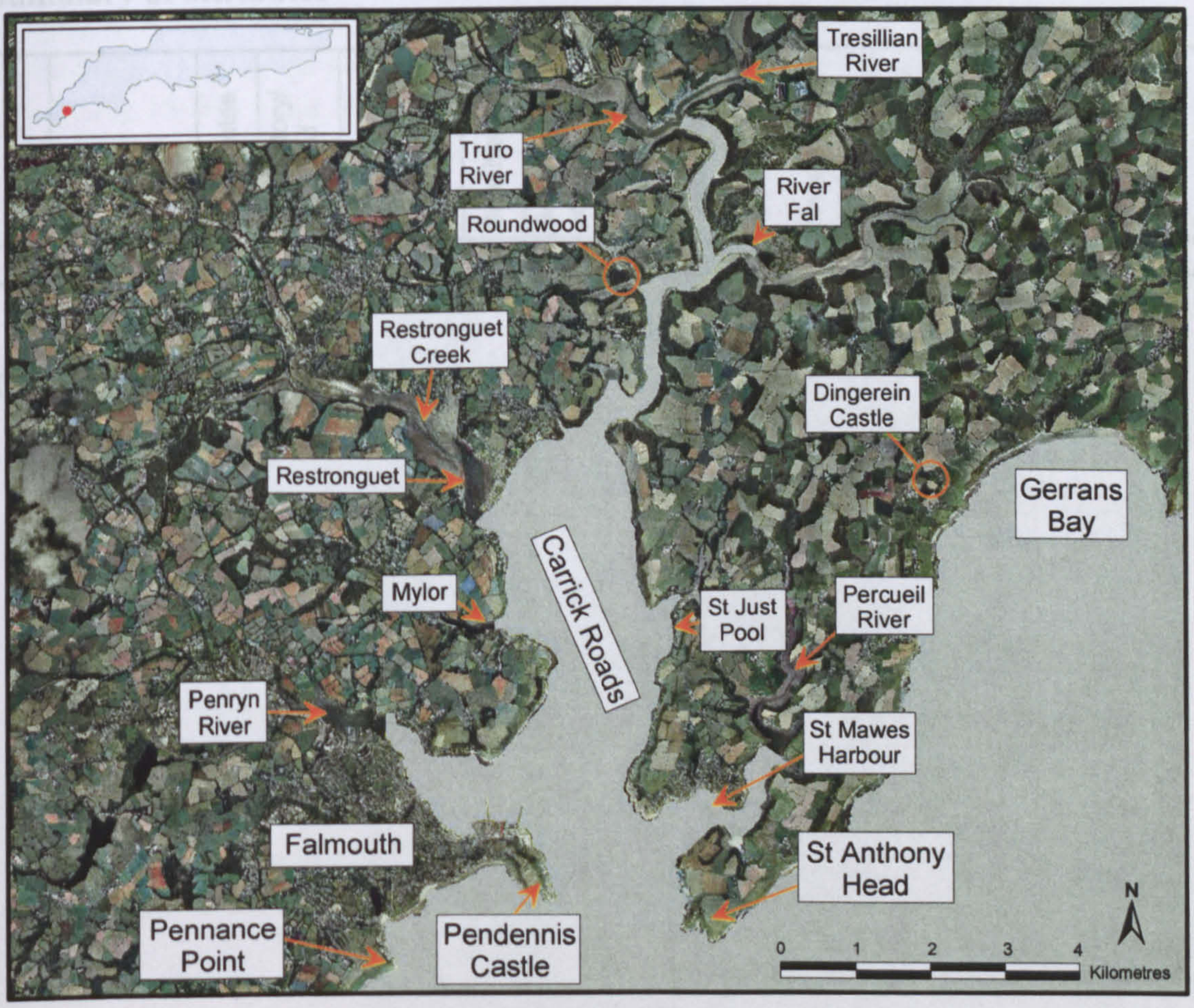

Figure 114: Aerial photograph of the Fal Estuary showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

The Cornish SMR lists 34 locations of Iron Age date in the vicinity of Falmouth. These include the cliff castle/promontory fort sites of Pendennis, Roundwood, Rosemullion, St Anthony, and Dingerein Castle. Hut circles and enclosures are listed at Pennance Point (with a hoard of Iron Age coins) and St Just-in-Roseland.

Comments

The waterways leading to the Fal Estuary are lined on the upper slopes of the valleys with enclosures, cliff castles, promontory forts, and groups of hut circles. The entrance to Carrick Roads is marked to the west by Pendennis Castle and to the east by the promontory fort of St Anthony Head. As at the Helford Estuary, these two distinctive sites have commanding views along and across the estuary and its approaches. From the estuary, river routes give extensive access inland to Truro and beyond.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
37	Falmouth	x	x		x	x	x	?	?		x	x	x		x	

Conclusion

'Probable' site

Helford Estuary (Site 38)

Location

Mouth of Helford Estuary OS NGR: 179000 026500
The estuary is fringed by the parishes of Mawnan, Constantine, (Gweek), Mawgan-in-Meneage, St Martin-in-Meneage, Manaccan, St Anthony-in-Meneage, and St Keverne, Cornwall.

Physical setting

The estuary runs for *c.* six kilometres east to west through the Lizard and is fed by Porthnavas Creek, Polwheveral Creek, the Helford river, Frenchman's Creek and Gillan Creek that feeds directly into Gillan Harbour at the southern edge of the estuary mouth. There are various other minor, spring-fed, water courses that make their way to the estuary. The edges of the estuary are marked by small, sandy coves and muddy inlets. The land rises fairly steeply from the water's edge.

The geology of the area is predominantly of the Upper Devonian Veryan formation, with outcrops of some of the earliest materials in the South West peninsula, Old Lizard Head series and Hornblende-Schists to the west (Edmonds et al. 1975, 15-20). The mica, quartz and hornblende elements of these rocks provide identifiable inclusions in the pottery produced from gabbroic clays in this area (Peacock 1988; Harrad 2002).

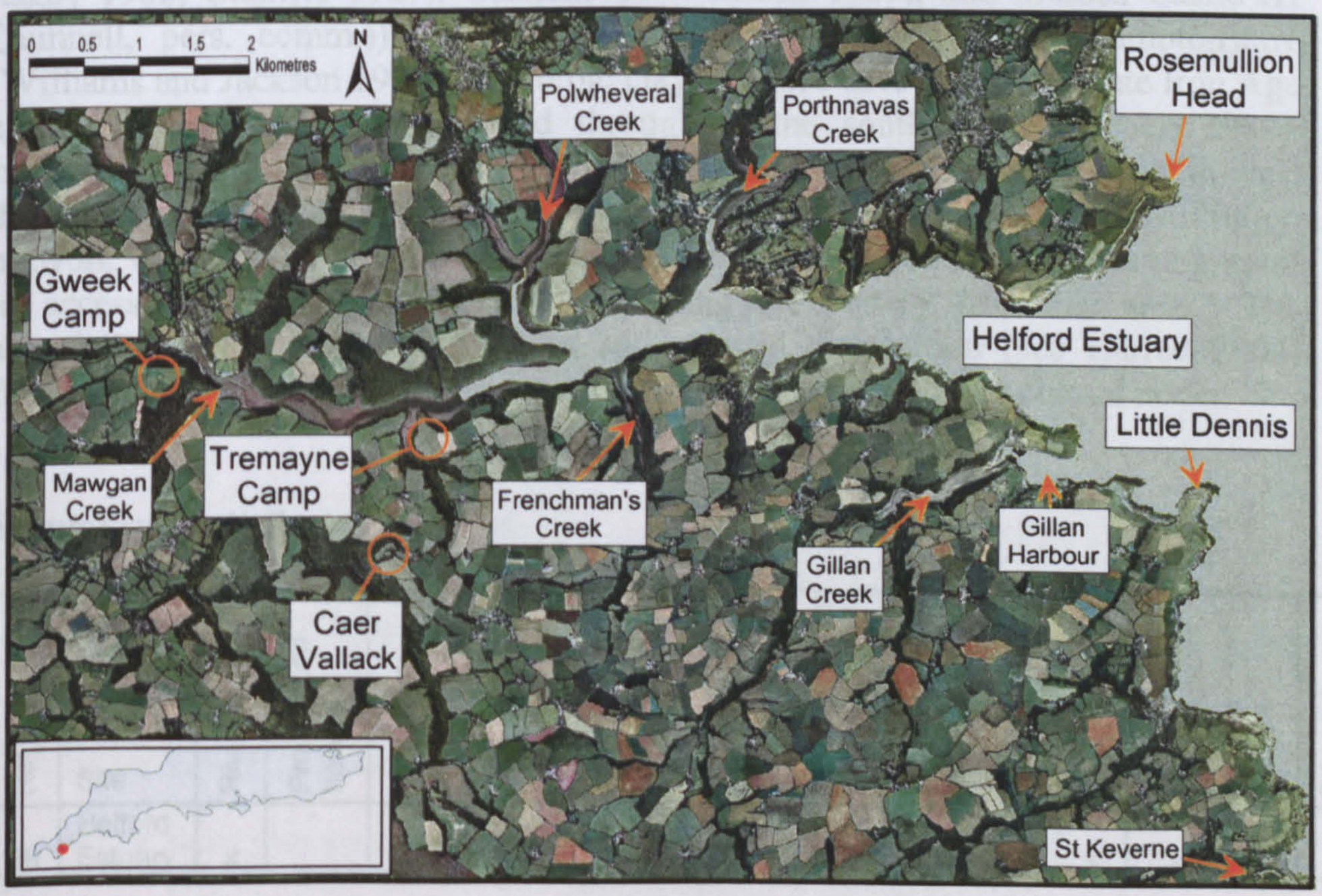

Figure 115: Aerial photograph of the Helford Estuary showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Little Dennis promontory fort at Gillan Harbour and Rosemullion Head cliff castle are respectively on the south and north of the mouth of the estuary and provide 'gateways' to oversee access to/from the estuary and its approaches. Other sites in the vicinity include Tremayne Camp, Caer Vallack and Gweek Camp. The Cornish SMR lists many Iron Age find spots in the parishes at the fringes of the estuary.

Comments

The excellent waterborne access with sheltered landing and mooring points make the estuary a good match with the physical traits model. The name 'Helford' is derived from the Cornish for *heyl*, meaning 'estuary', combined with the English *ford*, possibly referring to the ford over the stream by the river (Padel 1988, 95-6). The location of enclosures, hillforts, promontory forts and cliff castles which overlook the water courses heighten the possibility that it was an important route way in the Iron Age.

The clays of the Lizard are distinguished by their igneous inclusions, particularly of gabbro. Gabbroic clays were extracted from the area of the Helford river system and the coast, for example at St Keverne, to produce pottery from the Neolithic to the Iron Age, as well as in historic periods (H Quinnell, pers. comm.). During the Iron Age, gabbroic clay was used to produce south-western decorated ware (Glastonbury Ware) (Peacock 1969; 1988) which has been recovered from sites throughout southern Britain (for example, Hengistbury Head (Freestone and Rigby 1982; Cunliffe 1987), Glastonbury (Peacock 1969), and Maiden Castle (H Quinnell, pers. comm.)), and as far afield as Weekley in Northamptonshire (Williams and Jackson 1977). Gabbroic clay was also used to produce late Iron Age cordoned wares which are found throughout the south-west (Peacock 1988). Interestingly, pre-Roman conquest cordoned wares always occur with south-west decorated wares (H Quinnell, pers. comm.) suggesting that the same distribution network was used for both forms. It is likely that the Helford Estuary was important in accessing the clay sources and exporting the pottery from the area. The association with ceramic production and onward distribution (see Harrad 2002) further suggest the likelihood that this estuarine area operated as a coastal node.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
38	Helford Estuary	x		x	x	x	x	x	x		x	x	x	x	x	2

Conclusion

'Probable' site

Mullion (Site 39)

Location

Mullion Island at OS NGR: 166100 017600
Mullion parish, Cornwall

Physical setting

The area lies on the west side of the Lizard and comprises sandy beaches at Polurrian and Poldhu Coves. Off shore is the identifiable land mark of Mullion Island. The geology is of the Veryan Series of Upper Devonian rocks (Edmonds et al. 1975, 30) and Mullion Island comprises of pillow lavas (*ibid*, 31).

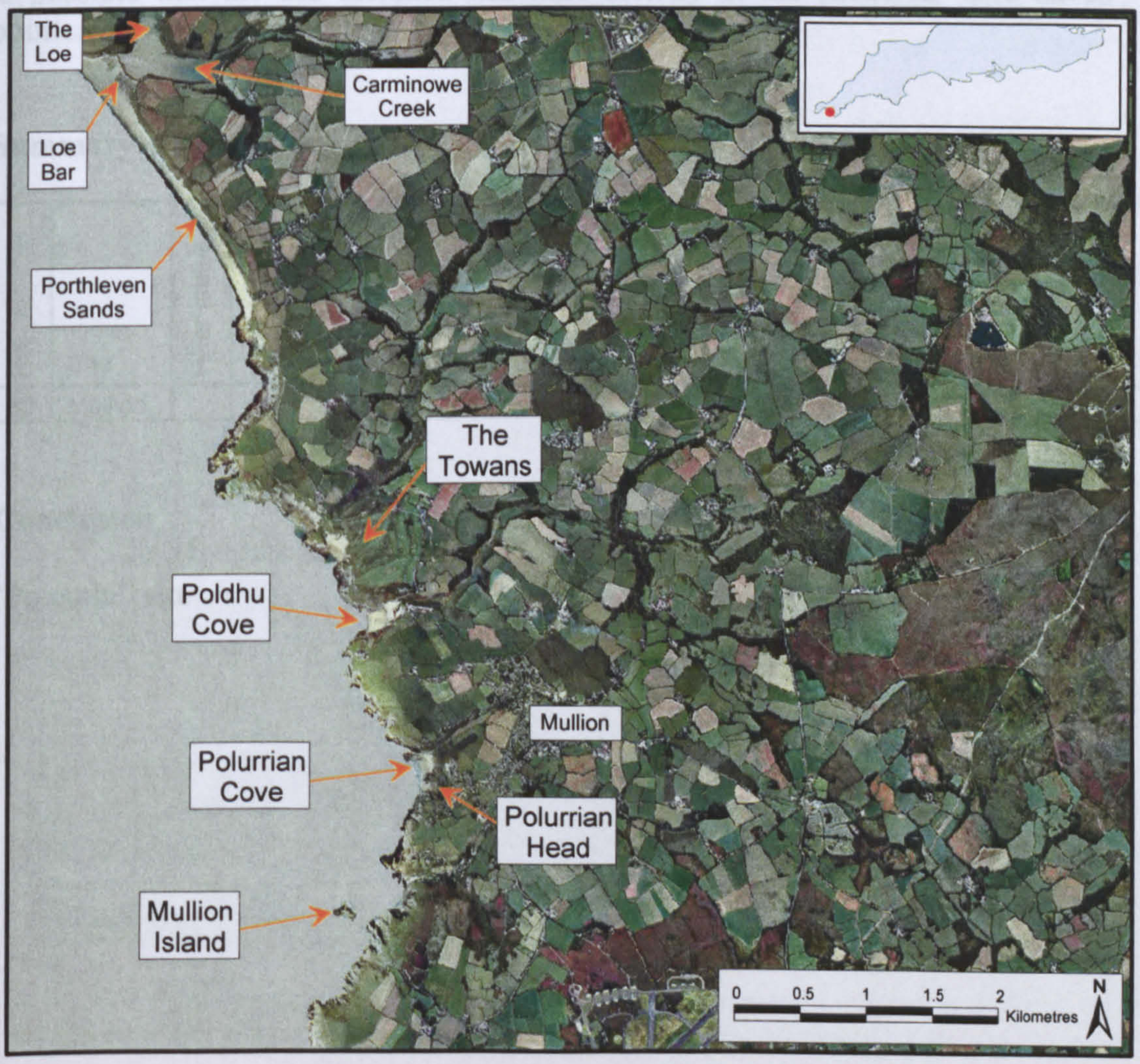

Figure 116: Aerial photograph of Mullion showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

The Towans (also known as Winnianton) (CoSMR 28086), a univallate hillfort, lies immediately north of Poldhu Cove, and a round (CoSMR 10547) and cliff castle (Polurrian Head) (CoSMR 10549) sit above Polurrian Cove.

Comments

Despite facing into the westerly winds, this area, on the edge of the Lizard, offers safe beaching spots with some shelter afforded by the cliff-lined coves and offshore island. About four kilometres north-west of Poldhu Cove, along Porthlevan Sands, is the location, at Loe Bar, where The Loe and Carminowe Creek meet the sea. These bodies of water provide access inland beyond Helston and Culdrose. The hillfort, cliff castle and other sites in the vicinity imply Iron Age use of the area. It is possible that the use included maritime activity at the sheltered 'safe haven' points.

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
39	Mullion			x		x	x			x			x			3

Conclusion

'Potential' site

St Michael's Mount (Site 40)

Location

OS NGR: 151500 029800
Marazion parish, Cornwall

Physical setting

The most westerly 'probable node' site identified in this study focuses on St Michael's Mount, a rounded 'islet' in Mount's Bay that is connected to the mainland by a *c*.0.5 km long low-water causeway. It has a steep southern face and is an easily identifiable point from vessels at sea. The Mount shelters a small, sandy harbour on its northern side (facing the mainland). The north-west sweep of Mount's Bay, from Newlyn to St Michael's Mount, is characterised by sheltered, sandy beaches which would make suitable landing points, whereas immediately to the east of the Mount, the shoreline is rocky and exposed, with steep cliffs in places.

The island is an outlier of killas Devonian material that forms a large expanse of the South West peninsula (Edmonds et al. 1975).

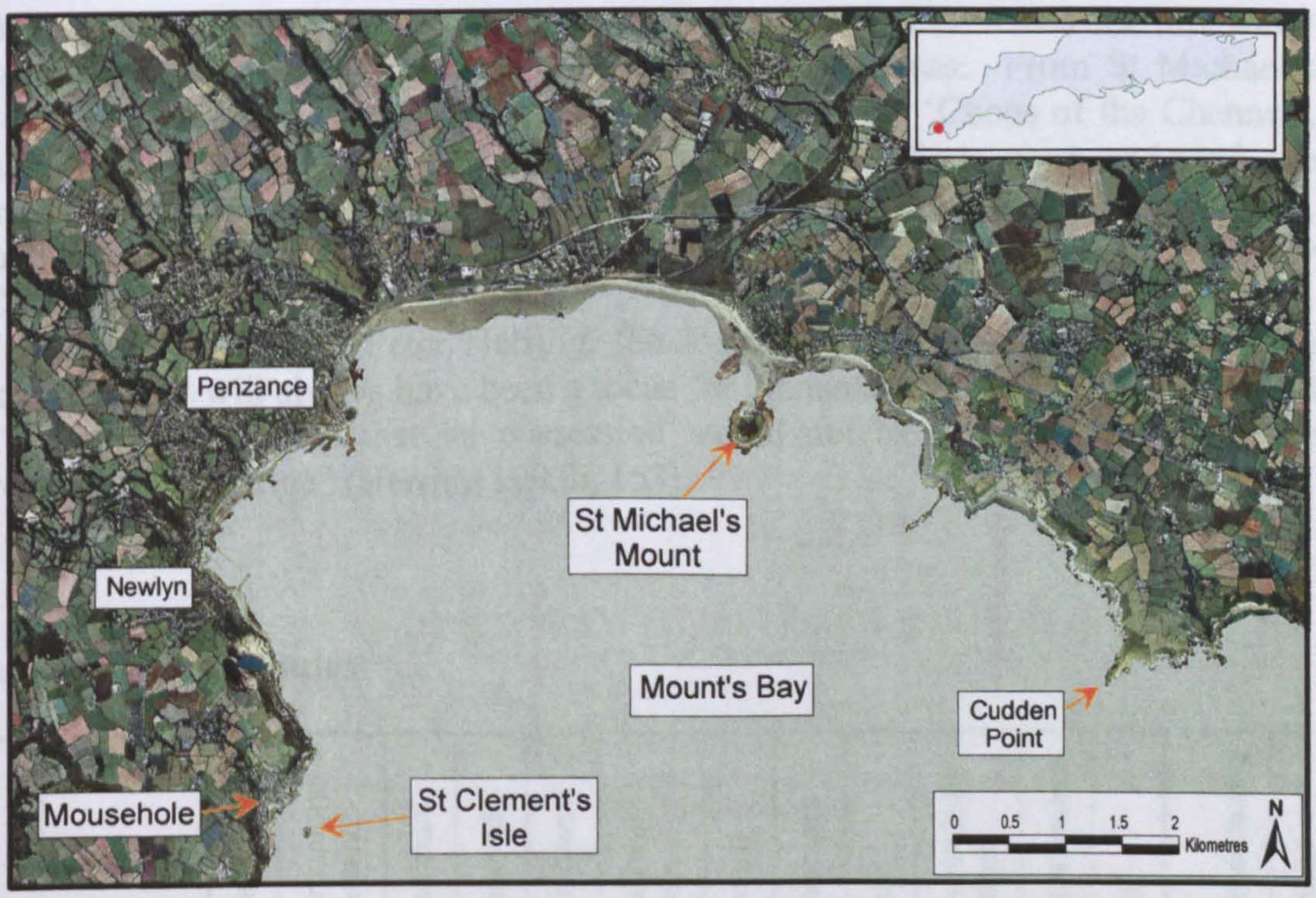

Figure 117: Aerial photograph of Mount's Bay showing the locations of Iron Age elements of the 'coastal node' and other places mentioned in the text (Base image © GetMapping plc).

Archaeology

Despite its prominent location, St Michael's Mount has received "surprisingly little work" (Herring 1993b, 153). There is an Iron Age field system and enclosures at Cudden Point (CoSMR 56236; 56248).

Approximately five kilometres south-west across the Bay is the small harbour of Mousehole with St Clement's Isle *c.*300 m offshore. An Iron Age import was recovered from this area which is totally sheltered from the west (Ordnance Survey 1962).

Comments

It is possible that St Michael's Mount was involved in international trade, supplying south-western minerals to the continent and receiving items in return. This trade role started in the Bronze Age, if not before. The site is one of the candidates for the location of *Ictis*, the causewayed island from which tin was exported into the Mediterranean market network, described by Pytheas.

In the wider area, Penzance (the name of which is derived from the Celtic for 'Holy head' (Ekwall 1960, 363; Padel 1988, 136)) is scattered with megalithic monuments which closely match those of Brittany and Ireland, attesting to over 4000 years of nautical connections. This area of south-west Britain has long been linked with Continental visitors including the Tartessians (from south-west Spain via Brittany), Phoenicians, and Carthaginians, attracted here by the natural tin and other resources. Tin and copper mined in central and northern Cornwall could have been transported overland to the shore of Mount's Bay and thence across the low water causeway to St Michael's Mount prior to dispatch overseas. From St Michael's Mount, tin and other exports were taken by sea across the 'Chops of the Channel', past Ushant to the River Loire. Then, by a combination of sea, river, and road, the British exports would reach the Iron Age Greek colony of Masilia (Marseilles). Such voyages are thought to have been undertaken by the Veneti of western Brittany (Calder 1986, 339-40).

As commented by Peter Herring, the location of the Mount, rising abruptly from the sea, "will always have been a focus for human activity in west Cornwall. It is difficult to imagine that its possession would not have always conferred the greatest local prestige" (Herring 1993b, 153).

Summary of attributes

Ref	Site	River routes	Promontory/ headland	Land mark	Sheltered	Safe haven	Beaching points	Storage	Settlement	Island	River/estuary location	IA enclosures	HGE	IA manufacturing	IA finds	Primary/ Secondary/ Tertiary
40	St Michael's Mount		x	x	x	x	x	?		x		?	x		x	1/2

Conclusion

'Probable' site

APPENDIX TWO

Extract from *The Antiquary* 1910

"Victoria County Histories." He is a Fellow of the Society of Antiquaries, and their secretary since 1908. He is an assistant commissioner of the Royal Commission on Ancient Monuments in England. The buildings which it will be Mr. Peers's duty to look after fall into two classes. One consists of those—such as Hampton Court Palace—which are the absolute property of the Office of Works under the Crown or the nation. The other, by far the larger, consists of those which have been handed over to the Office under the Act of 1882. "They remain," remarked Mr. Peers to a *Daily News* interviewer, "the property of the original owners, but, under the terms of the deed, they may not be touched by the owners without permission. We, on our part, undertake to do all that is needful for their preservation. We are very anxious that all the notable historic buildings in the country should come under the care of the Office of Works, for, although the present owners would not, in many cases, be guilty of vandalism, one never knows into whose hands the property may pass."

♣ ♣ ♣

In March last portions of a burnt and mud-buried Roman ship were discovered in the harbour near Christchurch. It was thought at first to be a Viking ship, but further excavations having since been made, it is now believed to be Roman. A small incense-cup or vase was found among the burnt timber and sent to the British Museum for examination, with the result that Dr. C. H. Read replied: "The small vase is of Roman date." Altogether, more than twenty articles—iron, bronze, and pottery—have been recovered, with fragments of human remains. The small cup or vase is of bright red ware, and wheel-turned. It was partly broken, but most of the fragments are to hand, and it can be restored. It is one of the smallest incense-cups found in England of Roman make, being 2⅝ inches in diameter, and 3⅛ inches high, while the neck is 1 inch long. It is of very graceful outline and proportion. In the *Victoria History of Hampshire* Christchurch is not considered to be a place of Roman occupation, and this is one of the first important authentic finds made belonging to the Roman period, with the exception of a few coins. The site of the discovery is in private grounds, and further results are expected. Recently, twenty Roman coins were unearthed in a garden in Westby Road, Boscombe. They were bronze, of the size known as "third brass," and bore the name of Vespasian.

♣ ♣ ♣

An interesting discovery was made in March at Southfield. The *City News* says that in the process of uncovering the side of the ancient gateway to the church of St. Bartholomew-the-Great, which has been acquired by the parish for preservation, a subsidiary arch has been brought to light, together with the ribs of some vaulting behind. The archway is a discovery in the sense that those responsible for the work did not expect to find it, and is another piece of evidence in favour of the contention of Mr. E. A. Webb that the gateway is all that remains of the western façade of the church of the great Augustine monastery. The arch originally pierced the south-west flanking tower of the west front of the church. The work belongs to the thirteenth century, probably about 1240: and the discovery adds yet more interest to the beautiful fragment of the City's Norman church. Probably—indeed, certainly—the authorities will now proceed to uncover the corresponding archway on the other side.

♣ ♣ ♣

At the first open meeting of the season at Athens, in March, of the American Archæological School, Professor D. M. Robinson, of Johns Hopkins University, read a short paper dealing with a mould for making terra-cotta statuettes found at Corinth during the excavations of the School in 1908, and representing *en face* the head and bust of the Athena Parthenos of Pheidias. The type is instructive, as it gives us a careful representation of the ornaments on the helmet worn by the goddess, and supplements the evidence on this point given by other smaller copies of similar style, notably the gold medallions from Kertsch now in the St. Petersburg Museum. The expression on the face of Athena is singularly attractive, as shown by a photograph of a cast taken from the mould, and probably comes nearer to representing the expression of the original statue than any

APPENDIX THREE

Geophysical Survey at Hengistbury Head

1 Aim and methodology

1.1 Aim and objectives

The aim of the geophysical survey was to assess the nature and extent of occupation areas surviving in the low-lying zone within the defended promontory of Hengistbury Head to the west of the known settlement area.

The objectives were:

- to determine the extent of occupation areas
- to characterize the internal organization of those areas where possible
- to assess the nature of the topographic setting in relation to the potential tidal inlet and other features.

1.2 Methodology

Hengistbury Head is a Scheduled Ancient Monument so in order to undertake this investigation Scheduled Monument Consent was sought from English Heritage and the application was approved with the issue of a Section 42 License under AMAAA 1979. A thorough desk-based review of published sources and SMR data was undertaken in advance of fieldwork. This highlighted potentially significant areas for survey and provided a context for the interpretation of the results of the geophysical survey.

A Leica System 500 GPS was used to determine the grid structure on the ground, utilizing the OS passive point C1SZ1591 at SZ150910. Two intersecting base-lines were established between 416500,090900–417020,090900 (east–west) and 416620,091000–416620,090800 (north–south) and a grid was marked by stakes at 40m intervals across the entire survey area. As the survey progressed, the intermediate 20 m points were marked by pegs sited using a tape run between the GPS positioned stakes. The base-lines and subsequent survey grids were therefore precisely located on the OS National Grid and can be easily relocated if necessary.

The primary geophysical survey was conducted using a GeoScan FM36 fluxgate gradiometer. As evidence of past occupation and settlement was expected in the form of magnetically enhanced material this was considered the most appropriate method for detecting anomalies. A detailed area survey was established as recommended by English Heritage (1995). A total of 139 20 m x 20 m grids were surveyed (see Figure 20). Readings were taken at 0.5 m intervals along parallel traverses 1.0 m apart. All data were downloaded into GeoPlot 3.0 for processing. The raw data files are retained with other survey information in the archive held at Bournemouth University.

In addition to the primary FM36 survey, a subsequent survey was conducted in February 2003 to investigate an anomaly on the magnetic plot. This was undertaken by two final year students of BSc Archaeology at Bournemouth University, under the supervision of Paul Cheetham and the author (see Grasso 2003; Pearce 2003). Different instruments were used to compare both the readings and effectiveness of the Geonics EM38B ground conductivity/magnetic susceptibility survey instrument, a GeoScan RM15 resistivity meter, and further use of the GeoScan FM36. Two grids of 10 m x 10 m and two grids of 20 m x 20 m were aligned over the original survey grid (Figure 23).

The results of all the instrument surveys were processed in an identical fashion using Geoplot 3.0:

- zero mean traverse
- 2 x 2 low pass filter (to reduce topsoil noise)
- 5 x 5 high pass filter (to reduce the background effect of the underlying geology)
- interpolate Y and interpolate X (to make the plots easier to view).

Interpretation of all the survey data was undertaken by the author and Paul Cheetham. All data processing and filtering was noted in the project document archive. The entire programme was non-intrusive with all indications of work having taken place (such as pegs etc.) removed by the end of the survey.

2 Fieldwork conditions and survey restrictions

The survey was conducted over 24 days between November 2002 and February 2003 in conditions that varied from heavy rain (when survey ceased) to dry and

bright. During December there was usually ground frost and the cool air temperature impeded the speed of the instrument's data recording. Windy conditions made steady use of the survey instrument difficult. Most problems arose from large patches of vegetation cover (heather and gorse) that made level surveying impossible and resulted in many incomplete grids. The east of Barnfield is extremely uneven due to many large anthills, some rising abruptly to as much as *c.*1.0 m above the ground, that again made even use of the instrument difficult.

3 Equipment configurations

GeoScan FM36

Instrument type:	Fluxgate gradiometer	
Grid square size:	20 m x 20 m	10 m x 10 m
Grid squares surveyed:	Primary survey: 139	Further survey: 2
Traverse separation:	1.0 m, parallel	0.5 m, parallel
Reading interval:	0.5 m	0.5 m
Recording method:	automatic encoder	automatic encoder

Geonics EM38B

Instrument type:	Conductivity/magnetic susceptibility meter
Grid square size:	10 m x 10 m / 20 m x 20 m
Grid squares surveyed:	4
Traverse separation:	0.5 m / 1.0 m zig-zag
Reading interval:	0.5 m / 1.0 m
Coil orientation:	horizontal (vertical dipole)

GeoScan RM15

Instrument type:	Resistivity meter
Grid square size:	10 m x 10 m / 20 m x 20 m
Grid squares surveyed:	3
Traverse separation:	0.5 m / 1.0 m zig-zag
Reading interval:	0.5 m / 1.0 m
Electrode config:	twin-probe
Electrode separation:	0.5 m

4 Primary survey results

The conduct of the primary FM36 survey in Barnfield and Longfield was impeded by the ground conditions (see above). These are reflected in the results which give only partial coverage of the area of Longfield and generated a poor response in the central area of the survey grid. However, where survey was possible, both linear and sub-circular anomalies were detected which may be of archaeological interest (see Figures 21 and 22). Typically these present readings of 16 nT against a background of -50 nT. Of particular note are the following:

Anomaly a: a 'U'-shaped anomaly with a very high reading (to 140 nT) abuts the perimeter fence of the Double Dykes earthworks. Each of the three sides is approximately 20 m long. This could be an iron fence foundation, possibly associated with military activity during the second world war. This area is highly contaminated with ferrous material.

Anomalies b, c and d: sub-circular anomalies, *c.*10 m diameter, which may have archaeological potential. The readings are 10 nT against a background of -2 nT. The northern edge of grid I10 (containing anomaly **c**) is within 10 m of a Bronze Age round barrow. It is possible that anomalies in this area might represent features that could be associated with the barrow or contemporary activity.

Anomaly e: a group of parallel linear anomalies was detected running approximately north north east – south south west (average reading 8 nT). These are interpreted as plough marks. However, anomaly $\mathbf{e^1}$ appears more distinct and corresponds with the position of one of Bushe-Fox's excavation trenches (see Figures 18 and 22; Bushe-Fox 1915, Plate 33). No features or finds were recorded from this trench that was over 150 m long.

Anomaly f: linear anomaly running south-east – north-west from grid D2 to C3 with a response of up to 40 nT. Its total length is approximately 80 m. This is on the same alignment as a line, possibly a field boundary, recorded by Bushe-Fox (1915, Plate 33).

Anomaly g: These isolated positive responses in grid K5 align with the plot of Bushe-Fox's excavation 'pits'. Therefore these signals, and those in grid C3, could arise from those investigations (see Figure 18). The archaeological potential of this area should be considered as high.

In Longfield the response is much noisier, particularly in grids X8 and Y8: this may be the results of local geology – ironstone was observed here, close to the harbour edge.

Anomaly h: curvilinear positive anomaly (up to 21 nT) that at times displays a negative edge. This may be interpreted as an ancient ditch, but its position within the active area makes it unclear. It lies very close to the line of a current grass footpath so a further survey was conducted to ascertain whether the response was indeed from the footpath or a potential ditch (see below). Following the further survey it is considered likely to be an ancient subsurface archaeological or geological feature.

Anomaly i: this linear response matches the course of a drainage ditch so is unlikely to be archaeological.

Anomaly j: a series of linear anomalies – three running north-east to south-west, crossed by a longer linear running north-west to south-east. These are not aligned with any recorded paths or trenches so may have archaeological potential. Each of the three parallel anomalies stops short of anomaly **h**.

Anomaly k: highly positive (40 nT) sub-circular anomaly at the south-east corner of grid T6. Given the potential of this area, it was re-surveyed with different instruments for clarification (see below and Chapter 6).

5 Further survey results

EM38b survey (summarized from Grasso 2003)

The raw plot of Grids 1 and 2 (Figure 24a and b) shows a very similar response from both the inphase and quadrature, that remain apparent following processing (Figure 25a and b). The range of readings is small (-2.3 – 1.0 mS/m) probably due to the very dry, sandy, well-drained soil in that area. This may have caused some 'shadowing' of the inphase signal, giving rise to the similarity in the inphase and quadrature plots.

The higher resolution of this survey compared with the primary survey enabled more precise detail to be defined. Both the raw and processed plots show three linear anomalies aligned north-west to south-east. The southern linear in Grid 1 aligns with the anomaly detected in the primary survey; the remaining two align

with modern footpaths (see Grasso 2003, Figure 19). This would suggest that the linear anomaly **h** is not aligned with a modern footpath. The alignment of this anomaly matches the edge of the Barnfield inlet shown by Barry Cunliffe (1987, Illustration 6) and is likely to be of high archaeological interest.

The circular anomaly **k** cannot be discerned from either the inphase or quadrature responses.

In Grids 3 and 4 the inphase and quadrature responses are again very similar (Figures 26a and b; 27a and b). Both reveal two linear anomalies running north-west – south-east. The northern linear (north-east corner of Grid 4) aligns with the anomaly detected in the primary survey with a response that suggests it may indeed be a ditch feature. The southern linear (running through both grids) could be a response to the modern footpath on that alignment.

RM15 survey (Summarized from Grasso 2003)

The processed resistance plot (Figure 25c) shows response characteristics which match those detected with the EM38b – linear anomalies which might represent an ancient ditch and modern footpath. However, the high resistance of the northern 'ditch' feature is unusual it was suggested that the use of a resistivity meter was not suitable for the conditions of this survey (P Cheetham, pers. comm.; Grasso 2003).

Grid 3 (Figure 26c and 27c) shows a very different response to that of the EM38b inphase and quadrature plots. The modern footpath is visible with numerous highly resistant anomalies. These have proved difficult to interpret as they do not correlate with either the inphase or quadrature of the EM38b survey (Grasso 2003, 58), although they are in the area of small 'pit-like' excavations by Bushe-Fox (see Figure 18).

Further FM36 survey (Summarized from Pearce 2003)

Two anomalies are visible in both the raw (Figure 24d) and processed (Figure 25d) plots. A linear anomaly runs approximately east – west through the middle of Grid 1. This has a low magnetic response that correlates with the magnetic susceptibility inphase plot of the EM38b (Figures 24a) and may be interpreted as a ditch feature. The second anomaly, in Grid 2, is sub-circular with a diameter of *c.*2.0 m. The responses range from -6.2 nT to 6.5 nT and are consistent with the interpretation of a pit or kiln/hearth feature at this location.

6 Survey summary

Prior to undertaking this survey, the generally unresponsive nature of the sand-based geology was a concern, but the detection of distinct anomalies in Longfield and indications of previous excavation trenches confirm that the techniques used were appropriate to detect subsurface features.

The results of the survey are not as comprehensive as anticipated due to the problems encountered in surveying much of the area, particularly in Longfield. However, the aim of the survey was broadly achieved. It is suggested that the Iron Age settlement area was confined to the shore of the harbour in Longfield, in the lee of Warren Hill. Isolated activity areas were detected in Barnfield, but no evidence to suggest enclosures or the extended 'urban settlement' postulated by Cunliffe (1978, Figure 11). A detailed summary of results of the survey and their interpretation is presented in section 6.4.2 of the main text.

APPENDIX FOUR

Geophysical Survey at Ower Peninsula, Poole Harbour

1 Aim and methodology

Ower Peninsula is located in the south of Poole Harbour, opposite Green Island (Figure 31). It is separated from the island by the channel of South Deep. Two stone and timber structures lead into the channel, one from Green Island, the other from Cleavel Point on the edge of Ower Peninsula. Ongoing investigation has interpreted the structures as jetties[60] (Markey et al. 2002) and provided a middle Iron Age date from the timbers. Previous studies (Woodward 1987a; Cox and Hearne 1991) have determined that a late Iron Age settlement was occupied at Ower Peninsula from *c.*20 BC until the mid-first century AD. This was investigated by geophysical survey in 1979-81 and excavation in advance of pipeline installation by BP (*ibid*).

1.1 Aim

The aim of the survey was to identify any subsurface remains of the southern 'jetty' as it ran to Cleavel Point and/or a track or route leading between it and the known area of settlement. In addition, it was proposed to investigate the intertidal area, beyond the limit of the 1979-81 survey (Woodward 1987a; Cox and Hearne 1991), to determine whether features could be detected past the edge of the known settlement area. One primary question that was unresolved by earlier excavation (Woodward 1987a; Cox and Hearne 1991) was the seaward extent of the settlement site. The northern shore of Ower has altered through processes of marine erosion and more recent accretion of silts and the growth of *spartina* beds. Therefore the likelihood of establishing the total extent the settlement in that direction is low. However, the question remained whether archaeological features could be detected

[60] An alternative interpretation of the structures is provided in this study (see section 7.5.4 of the main text).

beyond what had been considered to be the edge of the settlement in what is now the intertidal zone.

1.2 Method

Three areas were identified as suitable for survey (Figure 43) and the investigation was conducted over four days in 2001 and 2002 by the writer with Paul Cheetham and Roger Doonan of Bournemouth University. Three instruments were used: an FM36 fluxgate gradiometer, an MS2 magnetic susceptibility meter and field coil, and an EM38b electromagnetometer. All data were downloaded into Geoplot 3.0 (with the exception of the magnetic susceptibility results which were manually recorded) for post-survey processing and plot generation.

The survey grids in each area were referenced to perma-peg GIC-1 which had been positioned at 400197.00E, 086079.04N, 1.16 mOD using a Leica system 500 dGPS on 26 September 2000. The reasons for the selection of each area and the methods employed are detailed below.

1.2.1 Area 1

The survey was conducted over a previously uninvestigated area which ran from above the HWM into the area of intertidal mud alongside the water pumping station. The aim was to determine whether the landward line of the southern 'jetty' could be discerned and/or any associated structures or track leading towards it. Geophysical survey had not previously been attempted in this intertidal area of Poole Harbour and the fluctuating salinity of the silts and *spartina* beds made predicting background levels difficult. Two instruments, an FM36 fluxgate gradiometer and EM38b electromagnetic meter, were used. Eight grid squares (each 20m x 20m) were surveyed with the FM36. Four grid squares (each 20m E-W x 10m N-S) were surveyed with the EM38b.

1.2.2 Area 2

This area runs from above the HWM, over the shallow 'cliff' from which late Iron Age and other pottery is eroding, and into the intertidal zone of mud and *spartina*. Three grid squares (each 20m x 20m) were surveyed with the FM36 and EM38b to assess the difference in response between the dry and wet zones and determine

whether any anomalies could be detected in the intertidal zone as suggested by a magnetic scan and auger survey undertaken as part of the earlier work at Ower (Woodward 1987a, 47).

1.2.3 Area 3

This area had already been surveyed in 1979-81 (Woodward 1987a; Cox and Hearne 1991; Figures 32 and 33)) using a fluxgate gradiometer, but with a wide traverse interval of 2.0m (Woodward 1987a, 47). The north-east area of the earlier survey was resurveyed with the FM36 over 12 grid squares to determine whether a closer detection interval (in this case, 0.5m reading interval and 1.0m traverses) would produce more detailed results and if further anomalies could be detected in this area. An MS2 magnetic susceptibility meter was also used over 20 grid squares in this area to determine the magnetic characteristics of the topsoil.

2 Fieldwork conditions

The survey was conducted over four days in October 2001 and April 2002. Each day was clear, dry and bright with little wind. The survey in April was timed to coincide with a low spring tide so that the maximum possible area was available for survey into the intertidal zone.

The survey grids were arranged from dry land into the intertidal zone. This meant that much of the survey area was over mud of increasing depth with 'islands' of *spartina* which made it difficult to complete some grids in an even manner. The further north (towards the harbour) the survey progressed, the more saline the conditions became. Above the HWM, the dry land is an open field maintained as pasture. The interface between the dry and wet areas, at the HWM, is marked by a narrow band of mud consolidated with stones and shells and a shallow 'cliff' (*c*.0.4 m high) or step up to the field. Late Iron Age and other (later) pottery sherds are eroding out of the cliff (*ad hoc* work by the writer and D Evans, 2000 - 2004).

3 Equipment configurations

GeoScan FM36

Instrument type:	Fluxgate gradiometer		
	Area 1	Area 2	Area 3
Grids surveyed:	8	3	12
Grid size:	20 m x 20 m	20 m x 20 m	20 m x 20 m
Traverse separation:	1.0 m, parallel	1.0 m, parallel	1.0 m, parallel
Reading interval:	1.0 m	1.0 m	0.5 m
Recording method:	manual logger	manual logger	automatic encoder

Geonics EM38B

Instrument type:	Conductivity/magnetic susceptibility meter	
	Area 1	Area 2
Grids surveyed:	4	3
Grid size:	20 m x 10 m	20 m x 20 m
Traverse separation:	1.0 m, parallel	1.0 m, parallel
Reading interval:	1.0 m	1.0 m
Coil orientation:	horizontal (vertical dipole)	horizontal (vertical dipole)
Recording method:	automatic log	automatic log

Bartington MS2

Instrument type:	Magnetic susceptibility meter
Grids surveyed:	20 (Area 3 only)
Grid size:	20 m x 20 m
Traverse separation:	5.0 m
Reading interval:	5.0 m
Probe/coil:	D field coil
Recording method:	manual record of the median value from five point readings

4 Area 1 results

4.1 FM36 Fluxgate gradiometer survey (Figure 45)

The response shows very little difference through the intertidal zone suggesting that the magnetic enhancement of the muds is fairly uniform.

Anomaly a: (raw plot) is generated by the pumping station which is immediately adjacent to the fence bounding the survey area at that point.

Anomaly b: response generated by the metal perimeter fence of the pumping station area.

Anomaly c: is the response to the 'permapeg' survey station marker.

4.2 EM38b Electromagnetic survey (Figures 46 and 47)

The quadrature response is broadly similar to the inphase, but reveals more detail once processed. The response variations in both sets relate to natural differences in the saline intertidal zone.

5 Area 2 results

5.1 FM36 Fluxgate gradiometer survey (Figure 48)

The results from these grids clearly show the differences in magnetic response between the 'dry land' above the HWM and the intertidal zone. The dry field generated much more extreme readings than the mud. The smaller range of readings in the intertidal zone was probably due to the magnetic signal being 'masked' by the accreted mud and silt.

Anomaly d: a series of discrete positive responses above the HWM which correspond with anomaly **1** (Area 3) and the responses of the 1979-81 survey (Woodward 1987a, Figure 31A).

Anomaly e: a linear positive response with associated negative on the northern side. This corresponds with the line of the shallow cliff which marks the HWM.

Anomaly f: a linear response in the intertidal zone, which runs *c.*20 m north from the eastern edge of the survey area. The anomaly then turns to the east to run a further 20 m and beyond the eastern corner of the survey area. The response is not detailed enough to offer a specific interpretation, but the presence of a right angled feature in the intertidal zone, beyond the extent of the known settlement area, is of archaeological interest.

5.2 EM38b Electromagnetic survey (Figures 49 and 50)

Both the inphase and quadrature gave very different responses to the dry and intertidal zones. No archaeological features were detected in the dry zone.

Anomaly e: response to the shallow cliff marking the HWM.

Anomaly g: detected by both the quadrature and inphase as an area of higher magnetic susceptibility and conductivity respectively. This area is bounded by anomaly **f** detected by the FM36.

Anomaly h: detected by the inphase as an area of high conductivity. It is on the line of a field path. The compression of the soil along that line would generate such a response.

6 Area 3

6.1 FM36 Fluxgate gradiometer survey (Figure 51)

Anomaly i: a right-angled positive response, also detected in the 1979-81 survey (Figure 32). The response characteristics suggest this is a ditch.

Anomaly k: response of the 'permapeg' survey marker.

Anomaly l: series of discrete positive anomalies which were also detected in the 1979-81 survey (Figure 32).

Anomaly m: linear positive response. Following the 1979-81 survey, this anomaly was plotted as a ditch (Figure 32). However, the present survey suggests instead that it is one of a series of cultivation marks which run parallel with each other through this area (see anomaly **n** below).

Anomaly n: parallel linear positive anomalies running from the field edge inland. The spacing and character of these anomalies suggest they are cultivation marks.

6.2 MS2 Magnetic susceptibility survey (Figure 52)

The plots show a reduction in the levels of topsoil magnetic susceptibility from high responses in the west to low responses in the east of the survey area. The higher levels recorded in the west suggest that the soil has been enhanced by agricultural or other human activities. This area of higher magnetic susceptibility corresponds with anomaly **I** detected with the FM36 as areas of positive magnetic enhancement.

The eastern zone is an open area of very low lying land which gives access to the intertidal zone. It has suffered much denudation of soil (see Figure 44b) due to cattle and people making use of the access point. The removal of the topsoil would generate the difference in response detected across the survey area.

7 Survey summary

Three areas were surveyed on the edge of Ower Peninsula covering areas of known late Iron Age activity and the intertidal zone. The aim of the survey, outlined in section 1.1 above, was broadly achieved. Area 1 was surveyed to determine if any anomalies related to the southern 'jetty' could be discerned. Despite the use of two different instruments (FM36 and EM38b), none could. The implication of this is discussed in section 7.4.1 of the main text. Area 2 was surveyed to assess whether anomalies could be detected beyond what had previously been considered the boundary of the late Iron Age settlement. Both the FM36 and EM38b detected anomalies (**f** and **g**) beyond the boundary, in the intertidal zone. Whilst the anomalies detected by both instruments relate to one another spatially, the results of the geophysical survey do not permit the interpretation of either a function or a date for them although the outline shape and dimensions suggest they represent a straight-sided enclosure. Further work in this area, including excavation, would be useful to determine if the anomaly represents a feature associated with late Iron Age use of the area. Survey in Area 3 provided more detail of the subsurface features

and soil characteristics to complement the 1979-81 survey. The additional detail has allowed a reinterpretation of previously identified features and the extent of the settlement area. Further detail and interpretation of the anomalies are presented in section 7.4.1 of the main text.

APPENDIX FIVE

Geophysical Survey at Mount Folly, Devon

1 Aim and methodology

1.1 Aim

The aim of the geophysical surveys was to determine if the cropmarks recorded on the aerial photograph (Figure 66) could be detected by geophysical methods and, if so, to characterise the nature of their response and to determine their position on the ground. It was proposed to use the survey results to inform the excavation planning process.

1.2 Methodology

Geophysical surveys using an RM15 resistance meter and FM36 fluxgate magnetometer were undertaken between 2 and 13 September 2003, with further magnetometry grids surveyed on 30 September and 4 October. The survey grid had been established in advance throughout Ludgate Field using GPS and all points were tied to the Ordnance Survey National Grid so that the survey grid was aligned north – south. Each grid measured 20 m x 20 m. (The further gradiometer survey used the same grids but with a 10m x 10m configuration to account for the higher reading resolution). All machine traverses were east – west across the general slope of the field. The same zero point was used for all the magnetometry surveys, providing a level of uniformity and reducing the possibility of survey errors.

All data were downloaded into GeoPlot 3.0 for processing. The raw data files, processing and filtering notes are kept in the document archive at Bournemouth University. Processing and interpretation of the plots was conducted by the writer.

2 Fieldwork conditions

Ludgate Field was under short grass with no physical obstructions or impediments to the survey. The underlying geology is 'shillet', a form of shale. As it nears the coast in this area it rolls and folds over very short distances from vertical to horizontal bedding planes.

RM15 survey: bright, dry, and calm with occasional breeze from the south-east. The compact and stony soil often made it difficult to insert the remote probes, and the survey in general would have benefited from rain.

FM36 primary survey: bright, calm, and dry, with occasional breeze but nothing of detriment to the survey.

FM36 further survey: damp conditions with frequent rain, often very heavy. This survey was much affected by the strong wind that made level use of the instrument difficult to the extent that the survey often had to cease momentarily or for periods of time to wait for conditions to improve.

3 Equipment configurations

GeoScan RM15

Instrument type:	Resistivity meter
Grids surveyed:	31 (28 available for download)
Grid size:	20m x 20m
Traverse separation:	1.0m zig-zag
Reading interval:	1.0m
Electrode config:	twin-probe
Electrode separation:	0.5m

GeoScan FM36 primary survey

Instrument type:	Fluxgate gradiometer	
Grids surveyed:	Primary survey: 49	Further survey: 8 (6 repeated)

Grid size:	20m x 20m	10m x 10m
Traverse separation:	1.0m, parallel	0.5m, parallel
Reading interval:	0.5m	0.25m
Recording method:	automatic encoder	automatic encoder

4 Resistivity survey: primary results (see Figures 68 and 69)

The resistivity survey was conducted by Bronwen Russell (Bournemouth University) and the writer over 28 full and three partial grids. However, data from three of the full grids were corrupted on download and so are not included in the survey results. The average data reading from the dry ground conditions was 168.8 ohms, with a range of 1253.5 ohms (between the minimum of 37.5 ohms and maximum of 1291.0 ohms). The response was adequate to detect areas of particularly high or low resistance but the dry conditions obscured any subtle variations. In general, the main response was to linear anomalies which retained more moisture (and were detected as areas of low resistance). The anomalies detected were:

Anomaly A: sub-rectangular outline registering low resistance up to 50 ohms. The northern edge is indistinct against the general background readings. This is at the top of the field ridge from which the land slopes rapidly south and west. Any surface and sub-surface moisture would easily drain down slope making this area particularly dry. This anomaly corresponds directly with anomaly **a** on the magnetometry plot (Figure 71) and the northern enclosure on the aerial photograph (Figure 66). It is interpreted as Enclosure One.

Anomaly B: this is not particularly distinct but a linear anomaly running from **B-B** with an angle at **B1** is discernible with low resistance readings between *c.*40 - 85 ohms. This correlates with anomaly **b** on the magnetometry plot and the southern enclosure on the aerial photograph. It is interpreted as Enclosure 2.

Anomaly C: a slight linear response of low resistance runs from within anomaly **A** down slope towards anomaly **B**. Its route passes through the entrance of Enclosure One (that is not discernible on this plot). It is possible that the instrument detected the filled line of a pathway or hollow. It does not align with the geological

trend (anomaly **E**) and presents response characteristics different to anomaly **D**. This anomaly was not detected by the magnetometry survey.

Anomaly D: Four low resistance (up to 70 ohms) sinuous anomalies run down slope and merge slightly north of **B1**. These are fairly robust responses and may represent shallow sikes. These are not considered to be archaeological.

Anomaly E: linears running north-east – south-west throughout the majority of the survey area, with a particularly strong high resistance response at **E1** (in excess of 390 ohms). The consistent parallel trends are the responses to the underlying folding shillet geology. As the shillet rolls from horizontal to vertical or occurs nearer the surface, the high resistance response is recorded. **E1** is interpreted as a wider shillet ridge nearer the surface that presents a stronger signal. The proposed watercourse of anomaly **B** can be discerned running over the geology at **B2**.

Anomaly F: a linear anomaly of low resistance (*c.*50 ohms), interpreted as a possible moisture band.

5 Magnetometry survey: primary survey results (Figures 70 and 71)

The readings across the plot range from -196nT – 200nT with the extremes generated by the BT power cable (anomaly **z2**). The mean of all readings is 0.3nT, although the general background presents as a slightly negative response. Fortunately the metal fence in the hedge surrounding Ludgate Field would seem to have had little effect on the survey results as shown by the lack of distortion at the southern edges of grids H3 and I3 that were surveyed as close to the hedge line as practicably possible.

A number of discrete point and linear anomalies were detected in Ludgate Field many of which are likely to be of archaeological interest. The identified anomalies are:

Anomaly a: crisp, sub-rectangular outline of positive readings ranging from *c.*3 - 11nT. A negative halo appears around most of the circuit that is a typical response characteristic generated by the positive readings. The fours sides, each *c.*50m long, are straight and meet at rounded corners. The southern edge (down slope side) has a narrow break of *c.*4m in the circuit; the eastern terminal at the

break is bulbous in outline. This anomaly directly matches anomaly **A** on the resistivity plot (Figure 69) and the northern cropmark recorded on the aerial photograph (Figure 66). It is interpreted as Enclosure One.

Anomaly b: an irregular, five-sided anomaly, again crisply outlined with strong positive responses (3 – 17nT). As with anomaly **a**, this is a uniformly positive response with a negative halo that is a typical response characteristic. The five sides are slightly sinuous with both concave and convex form. No break is discernible in the circuit although the eastern side is masked by the responses from anomalies **z1**and **z2**; the northern circuit is overlain in part by the disturbed response of anomaly **h2**. **Anomaly b** correlates with anomaly **B** recorded by the resistivity survey and the southern cropmark on the aerial photograph: it is interpreted as Enclosure Two.

Anomaly c: positive linear anomaly of *c.*4 – 8 nT, running parallel with the north and east sides of anomaly **a**, *c.*8m beyond it. Anomaly **c** parallels the line of anomaly **a** most precisely, including the rounded north-east corner, until near the south-east corner. At that point, several linear anomalies meet and anomaly **c** appears to turn *c.*25° further to the east for approximately 20m. It then abruptly turns to the north-west and its response characteristics become less defined as it runs parallel to anomaly **b**. It is significant to note that anomaly **c** respects and in places parallels both anomalies **a** and **b**; its outline is not as wide, but the signal is as robust and within the same response range. The phasing and relationships at the meeting point with anomaly **l** cannot be discerned through these results and would require excavation to assess with clarity.

Anomaly d: an ovoid arrangement of discrete positive points (2 – 3 nT) within which is a single point with a particularly strong positive response (*c.*5 nT). The oval dimensions are *c.*11m east – west by *c.*8m north – south. At least 11 points define the oval. The lack of negative association with the positive responses suggests that these points represent an arrangement of pits or large post-holes. It is certainly to be considered as a potential feature of archaeological interest within Enclosure One.

Anomaly e: straight, linear anomaly running for over 60m across the width of anomaly **b** on a south-east-east – north-west-west alignment. It displays positive readings of 2 – 8 nT and has an associated negative halo. The western end of this anomaly passes beyond the western corner of anomaly **b**; its eastern end is masked

by the response of anomaly **z1** so it cannot be determined whether it lies within or outside of anomaly **b**. The western terminal appears to end at a junction with outer anomaly **t**. The central portion of anomaly **e** is obscured by anomaly **f**. From this geophysical survey it would appear that anomaly **e** continues through and underlies overlies anomaly **f**. The positive response characteristics suggest that anomaly **e** is a ditch cut that has filled with magnetically enhanced material.

Anomaly f: a positive response of irregular outline and discrete points that overlies anomaly **e** within anomaly **b**. The response range is generally 2 – 5 nT. This anomaly appears as a dark shadow on the aerial photograph and was considered to be of some significance given its central location within anomaly **b** and possible relationship with anomaly **e**. It was therefore subject to a further, higher resolution survey (see below).

Anomaly g: a positive response (2 – 6 nT) of irregular outline and discrete points that lies immediately north of anomaly **b**. It has similar form and characteristics to anomaly **f**, but is smaller in size. It is not possible to ascribe definite form nor function but this is considered to represent a potential archaeological feature that would benefit from further investigation.

Anomalies h1 and h2: these are areas of disturbed "noise". **h1** runs through the very north of the survey area, immediately off the high ground ridge on the northern, sheltered side. On the ground this area was very broken up by the grazing animals. The responses ranged from -3 – 5 nT. The scattered form of response here and at **h2** suggests some form of dumped material lying beneath the surface. It is possible, particularly at **h2** (response range -7 – 7 nT) that it could be material related to the construction of the track. There is little evidence of other ground contamination with the exception of discrete positive spikes that may represent stray metal objects on or near the surface.

Anomaly i: Approximately 90 m length of linear anomaly that runs across the width of the northern survey area with a response range of 3 – 6 nT. It has a slightly sinuous form. In places some of the disturbed material of anomaly **h1** overlies this linear. It is interpreted as a ditch feature, possibly related to anomalies **c** and **j**.

Anomaly j: this positive linear anomaly presents readings of 2 – 6 nT, and is similar in range and characteristics to anomalies **c** and **i** with which it might be associated. As with those, it is interpreted as a ditch feature. It is possible that all three form the boundaries of a route way or field system (see Chapter Eight).

Anomaly j ends abruptly in grid I10: it is likely that the feature continued beyond that point but, as with other anomalies observed, its response was masked or its characteristics changed and were not detectable by the survey instrument.

Anomaly k: linear anomaly of positive response (2 – 7 nT) that starts in grid K7 and runs south-east for *c.*22m. Approximately 12m along its length, within the area of anomaly **n**, it displays a 90° 'branch' to the south-west. In grid J6 the 'branch' meets the northern corner of anomaly **b**: it is then not possible to determine whether the linear feature ends, overruns or underlies anomaly **b**. It is possible that it continues through the line of anomaly **b** to emerge as, or on the line of, anomaly **t**. **Anomaly k** parallels the route of anomaly **c**, at *c.*6 – 8 m distance, including the sharp corner. The northern end of anomaly **k** ends abruptly close to the line of anomaly **l**. It is a matter of conjecture whether anomaly **k** continues parallel with anomaly **c** to join with anomaly **j**.

Anomaly l1 and l2: l1 is a linear anomaly running south-east – north-west with positive responses ranging from 2 – 6 nT. This anomaly starts and finishes abruptly, as with others it is proposed that the actual feature represented continues in either direction, but was not detected by the survey instrument. It is likely to be a ditch feature that runs through the area of anomaly **n** and into the area defined by anomaly **a**. At the point where anomaly **l1** crosses anomaly **c**, it also forms a junction with anomaly **l2**. **l2** runs at a right angle from **l1** for *c.* 62m until it meets anomaly **c** where it appears to terminate. The phasing and interpretation of these features would be useful to determine via excavation.

Anomaly m: four lines of indistinct positive readings converge at a point in grid J11 immediately south of anomaly **i.** These linears become increasingly weak as they progress south-west down the slope (overall range 0 – 8 nT). They are of a sinuous nature and curve to approximately accord with the geological trend observed on the resistivity plot (Figure 69, anomaly **E**). They are interpreted as the possible course of water lines running down slope beneath the ground surface and as such are natural rather than archaeological features. The southern most line runs through the area defined by anomaly **a** and is masked by anomaly **w.**

Anomaly n: a circular arrangement of positive points (2 – 4nT). This area is to the edge of the noise of anomaly **h2** but would seem to have more form than a fortuitous arrangement of points. The circle is *c.*15 m diameter and is in spatial association with anomalies **k** and **l.** The positive responses, without associated

negative readings, suggests that these points are an arrangement of pits or post-holes.

Anomaly o: segmented curvilinear anomaly of 2 – 4 nT running across the southern line of anomaly **a** to meet with anomaly **r** in grid G8. This follows the line of anomaly **D** on the resistivity plot that was interpreted as a sike.

Anomaly p: a series of short linear anomalies including one that exhibits a right angle corner in grid F7. It is not possible to state whether these brief lines of detection are related to each other. They respond with similar characteristics of 3 – 5 nT and the group includes what may be discrete points or even shorter lengths of linear detection.

Anomaly q: curvilinear anomaly (2 – 6 nT) running for *c.*40m to the north-east from the edge of the survey in grid F9. Its sinuous form is cut by anomaly **i**, suggesting that anomaly **q** is of an earlier date. Again, this linear anomaly terminates abruptly in the area of speckled noise (anomaly **h1**).

Anomaly r: discontinuous linear anomaly running into the area bounded by anomaly **a** which overlies this linear. It has positive responses of 2 – 5 nT and follows the line of anomaly **F** on the resistivity plot. That was interpreted as a natural moisture line.

Anomaly s: two potential linear anomalies run approximately south-east – north-west between anomalies **e** and **x**. Their detection and appearance is much affected by the stronger readings of anomalies **t** and **b**; at this point anomaly **b** presents a less positive response than elsewhere along its length. The slight nature of the survey evidence is not sufficient to postulate the particular form or interpretation of these anomalies. As with many of the anomalies detected, the readings range from 2 – 5 nT.

Anomaly t: a pair of linear alignments running parallel with and between anomalies **b** and **c**. The northern linear of the pair has readings of 2 – 5 nT. From the edge of the survey grid it runs for approximately 30m before the readings fade away. The southern linear has stronger readings of 6 – 13 nT – rather more positive than most anomalies detected. The readings run for *c.*16m before seeming to end abruptly. Both of these linears end in areas of undefined, grey resolution (-2 nT) where the expected negative halo from the north-west edge of anomaly **b** should be. It is likely that the effect of the halo cancelled out any positive readings from either or both of the linears, resulting in the grey area displayed. The continued line of the

anomaly **t** linears is perhaps indicated by the negative linear running from grid H5 - grid J6 that is probably their negative halo response. It was proposed to clarify the existence of anomaly **t** and its relationship, if any, with anomaly **b**, by excavation.

Anomaly u: indistinct linear of positive (2 – 3 nT) and associated negative (-2 – -4 nT) responses on the southern edge of the survey. The characteristic of positive and associated negative readings suggest this is an archaeological cut feature which has filled with magnetically enhanced material. These responses are similar to those of anomaly **t.** Future survey planned beyond the western edge of the current grid will reveal if there is any spatial relationship or link between the two.

Anomaly v: faint linear response (1 – 3 nT) running north-west from grid H3. This would seem to cross over anomalies **b** and **t** before adopting a more curvilinear form. The low level of the positive responses is in contrast to those detected in many of the other linear forms suggesting that either this represents a deeper feature, or that the material detected has less magnetic enhancement.

Anomaly w: an indistinct area of slightly positive readings (0 – 3 nT). It is of potential significance given its position within the boundary of anomaly **a,** and its location at the point where anomaly **r** changes character. If associated with anomaly **r** that could in turn be a continuation of anomaly **m,** it is likely that this anomaly is of a geological nature.

Anomaly x: discontinuous linear running south-east from the edge of the survey area in grid F7. This line (2 – 3 nT) meets that of anomaly **l2** in grid I5; at that point it changes orientation to run more to the south across anomalies **c** and **t** until it meets anomaly **b,** after which it was not detected.

Anomaly y: circular arrangement of positive points (2 – 6 nT) in the area bounded by anomaly **b.** These are interpreted as potential post holes and might represent a structure within the enclosure.

Anomalies z1, z2, z3, and z4: these are responses to known modern features. **z1** is the line of a stone vehicle track that runs through Ludgate Field. **z2** is the line of a BT power cable. **z3** is the line of an earlier cable. **z4** is the response created by a metal sheep trough at the edge of the field.

6 Magnetometry survey: further survey results (see Figure 72)

In order further to investigate anomaly **f** within Enclosure Two, a higher resolution survey over grids J4 and J5 was undertaken. The grids were sub-divided each into four 10m x 10m smaller grids to facilitate the higher resolution survey of 0.25m reading interval along 0.5m parallel traverses. Two attempts were made. The first covered the full set of eight 10m x 10m grids (Figure 72) but this yielded unsatisfactorily distorted data. The second attempt covered only six of the eight small grids, but with much better results. Both sets of results have been presented for a complete record of the survey and as each shows the anomalies in slightly different ways. Readings from the second attempt are referred to in the following detail. The average data reading from that survey was 0.04 nT, with a range of 45.4 nT between the maximum reading of 40 nT, and minimum of -5.4 nT.

Anomaly e: this corresponds with the linear anomaly **e** detected in the primary survey. Here though it can be observed entering the circular configuration of the anomaly **f** components, although there is still a lack of continuity to the line near the centre of the feature. Readings along its length vary from -1.0 – 4.1 nT.

Anomalies f1, f2, and f3: these three discrete anomalies lie within the circular configuration. They were recorded as positive responses of 5.7 nT, 4.0 nT, and 5.2 nT respectively. The lack of negative association suggests that they represent cut features such as pits that have filled with enhanced material.

Anomaly f4: although this appears as a similar size to anomalies **f1, f2, and f3,** the positive response (5.4 nT) has an associated negative response of -5.2 nT. This is more indicative of a feature that has been affected by extreme heat, such as a kiln, hearth, or furnace, or a cut feature that has been filled with heat-affected material. The responses from all these anomalies suggest that they are not deeply buried, but are close to the current ground surface.

Anomaly f5: this sub-circular anomaly appears more clearly on the primary survey plot, but is still evident at the higher resolution. Little detail is added though other than the confirmation that anomaly **e** appears to run at least part way into the area of anomaly **f5.**

All the features represented by the anomaly **f** group are within a roughly circular configuration, outlined by the faint response observable in all three survey plots.

A summary of the results and their interpretation is presented in section 8.5.2 of the main text.

APPENDIX SIX

Pottery from Mount Folly, Bigbury, Devon

by Roger Taylor BSc PhD, Exeter

The following petrological report on the pottery recovered from excavation at Mount Folly in 2003 was prepared for the writer by Dr Roger Taylor, and appears as an appendix to this thesis with his permission. Thin-sections of items f010 and f2021 were prepared by the writer, Rob Haslam and Professor Timothy Darvill at Bournemouth University.

Seven sherds were found in two trenches excavated at Mount Folly. Each sherd is reported on below.

f010 (Trench 1, F001)

Small body sherd, thin, weakly oxidised outer surface with dark grey, reduced core and inner surface.

Temper: c. 20%

Quartz – Colourless, clear to translucent, angular, and sub-angular slightly abraded grains. Size variable up to 1.5 mm.
Feldspar – Translucent pale yellowish angular to sub-angular grains some showing cleavage planes. Up to 1 mm.
Tourmaline – Black vitreous angular grains of schorl, one striated and crystalline. Size 0.3-0.75 mm.
Composite grains – Angular, quartz tourmaline and quartz feldspar, up to 1 mm.
Mica – Biotite – A scatter of brown cleavage flakes 0.2-0.75 mm.
Muscovite – Rare colourless, silvery, cleavage flakes up to 0.5 mm.

Thin section
Quartz – Angular, rarely sub-rounded. Less than 0.1 –1.2 mm
Feldspar – Cloudy sericitised angular untwinned grains probably orthoclase. Up to 1 mm.
Biotite –
Tourmaline – Angular grains of schorl, pleochroic brown to dark blue. *c.*0.1 mm.
Composite – Angular, feldspar-quartz, feldspar-quartz-tourmaline.

Comment
A typical granite derived temper. The black tourmaline schorl is a common and distinctive minor component of the granites of SW England.

f0015 (Trench 1, F002)

Very small body sherd, reduced, dark grey.

Temper: Content not estimated (sherd too small and reduced).

Quartz – Angular grains 0.2-0.3 mm.
Mica – Brown cleavage flakes of biotite 0.1-0.2 mm.
Rock fragments – Grey, angular tabular fragments of micaceous hornfels seen. One sub-rounded. 1.2, 1.5 and 2.2 mm.

Comment
The temper is difficult to determine because of the dark reduced state of the sherd. Many of the mineral grains are coated with a dark film. However the sufficient can be seen to indicate a granite-derived temper with country rock fragments.

f2006 (Trench 2)

Small rim sherd; reduced, dark brownish grey.

Temper: Content not estimated, temper too fine-grained.

Quartz – Mainly angular grains 0.1 mm or less with a few very well rounded polished grains up to 0.3 mm.
Mica – A scatter of colourless flakes of muscovite 0.1 mm or less.

Comment
The very fine and uniform grains size and restricted mineralogy of the temper associated with some well rounded and polished grains suggest an estuarine source for the tempering sand. Well-rounded and polished grains are indicative of a shoreline source. Some shoreline sand can be swept into estuaries by tidal action. With the Erme estuary nearby this ware could be of very local manufacture.

f2021 (Trench 2)

Body sherd fragments; reduced, dark brownish grey.

Temper: 5-10%

Rock fragments – Grey to buff tabular sub-rounded fragments of micaceous slate up to 1 mm.
Quartz – Transparent to translucent angular grains, up to 1 mm. One well-rounded 1mm grain.
Feldspar – White to translucent angular grains, some soft and altered some showing cleavage. Up to 1 mm.
Mica – Brown biotite flakes, 0.1-0.75 mm.

Thin section
Rock fragments – Angular elongated grains of micaceous slate, siltstone, 0.2-1.1 mm.
One rounded fragment of an altered basic igneous rock (basalt) consisting of laths of feldspar and biotite, 0.5 mm.
Quartz – Angular grains 0.1-0.5 mm.
Feldspar – Angular cleaved grains, up to 0.4 mm.
Mica – Laths/flakes of biotite, pleochroic from light to dark brown 0.1-0.3 mm.

Comment
A granite-derived temper with sedimentary rock fragments as the dominant component and relatively sparse feldspar. Source probably some distance from the granite margin. Basic volcanic rocks crop out south of the Dartmoor Granite.

f2022 (Trench 2)

Body sherd, reduced, very dark brownish grey.

Temper: Content not estimated.

Quartz – Transparent to opaque white angular grains, up to 1.2 mm. Two larger sub-rounded vein-quartz grains 2.3 mm.
Feldspar – Clear angular grains some showing cleavage, up to 0.75 mm.
Mica – A scatter of brown flakes up to 0.3 mm.
Rock fragments – Grey tabular slate fragments, up to 1 mm.

Comment
A granite-derived temper. Many of the grains have a dark coating and are difficult to determine

f2023 (Trench 2)

Body sherd fragments; reduced dark brownish grey. Outer surface coated black, possibly burnished.

Temper: 5-10%

Quartz – Transparent to translucent colourless angular grains, up to 1.25 mm.
Feldspar – White and translucent
Mica – Brown flakes of biotite 0.1-0.3 mm.
Rock fragments – Grey to buff, tabular sub-rounded slate fragments, up to 1 mm.

Comment
A granite-derived temper.

f2036 (Trench 2)

Small body sherd, weakly oxidised, brownish.

Temper: c. 15%

Quartz – Colourless to pale yellow transparent angular grains up to 0.75 mm.
Rock fragments – Buff to silvery light grey, angular elongated fragments of slate and slaty hornfels, 0.75-1.5 mm.
Mica – Brown flakes of biotite 0.2-0.6 mm. Sparse flakes of muscovite up to 0.2 mm.
Feldspar – White opaque and some clear angular grains up to 0.75 mm
Tourmaline – Sparse black to translucent brown angular grains 0.1-0.2 mm

Comment
A granite derived temper with micaceous slate/hornfels fragments quite common. Temper from a stream sediment source outside the granite margin.

General Comment

The sherds were examined with a binocular microscope at magnifications up to x20, and the thin sections with a petrological microscope from x100 – x400.

The term granite-derived is used to define tempers that contain minerals derived from a granitic source, such as the Dartmoor Granite, but in which the proportions of the minerals present are not those found in the original granite. Generally the feldspars, particularly plagioclase, and the brown mica biotite, the least stable minerals, are depleted as they are moved further from their source.

The presence of country rocks such as hornfels and slate indicate the source of the temper sand was outside the granite margin. Quartz is the dominant temper in all these sherds with rock fragments becoming important in some. In typical SW England granite, Feldspar comprises *c.* 60%, Quartz *c.* 30%, and other minerals *c.* 10%.

Most granite-derived tempers appear to stream or river sands. Tempers composed of *in situ* weathered granite or of crushed granite are quite rare. As the Dartmoor Granite is only 13 km north of the site, it is probable that the streams or rivers draining the granite were the source of the temper and that all these wares were made locally. Only f2006 is an exception to the granite derived classification.

The Middle Devonian slates which have an east-west outcrop south of the Dartmoor granite weather to plastic clays. It is possible that this was the source of the clay used. The Middle Devonian slates are quarried for brick making in the South Hams (Steer Point).

Unfortunately the granite-derived tempers from SW England have a wide time-range, Bronze Age to Medieval, and are not of much value for assigning ages to pottery.

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