

Survey & Recording of an “Upside Down Wreck” on Freshwater West Beach, Pembrokeshire



**Remains of the
“Upside Down Wreck”
at Low Water**

(Photographs: Ian Cundy)

Survey and Recording of an “Upside Down Wreck” on Freshwater West Beach, Pembrokeshire

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1.0 Introduction

Following storms that ravaged the United Kingdom during the first couple of months of 2014, numerous sightings of wreckage were reported around the coast of the United Kingdom including the site in Pembrokeshire, South Wales to which this report relates.

On 17th February the report of an “Upside Down Wreck” on Freshwater West Beach was made by Peter Crane from the Pembrokeshire Coast National Parks Authority to Deanna Groom at the Royal Commission on the Ancient & Historical Monuments of Wales (RCAHMW). Deanna subsequently sent an e-mail to Mark Beattie-Edwards at the Nautical Archaeology Society (NAS) asking if a Total Station survey of the wreck could be carried out, and the Malvern Archaeological Diving Unit (MADU) were requested to follow this up.

On the first opportunity when the weather and tides were suitable, Ian Cundy and Bill Turner from MADU paid a visit to the site, and this document is a report of their findings.

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3.0 Location

The “Upside Down Wreck” lies on Freshwater West Beach in Pembrokeshire which as can be seen from Fig 1 below this beach lies to the east of the entrance to Milford Haven.

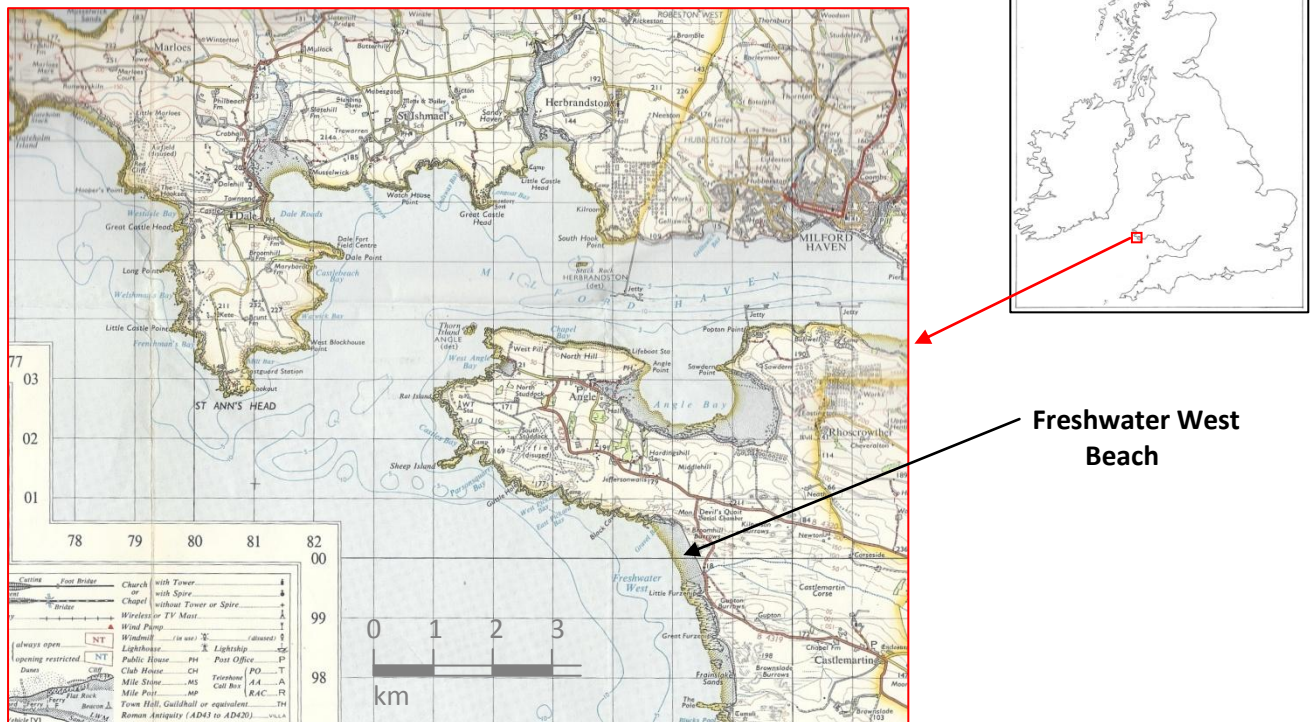


Fig.1 Location of Freshwater West Beach.

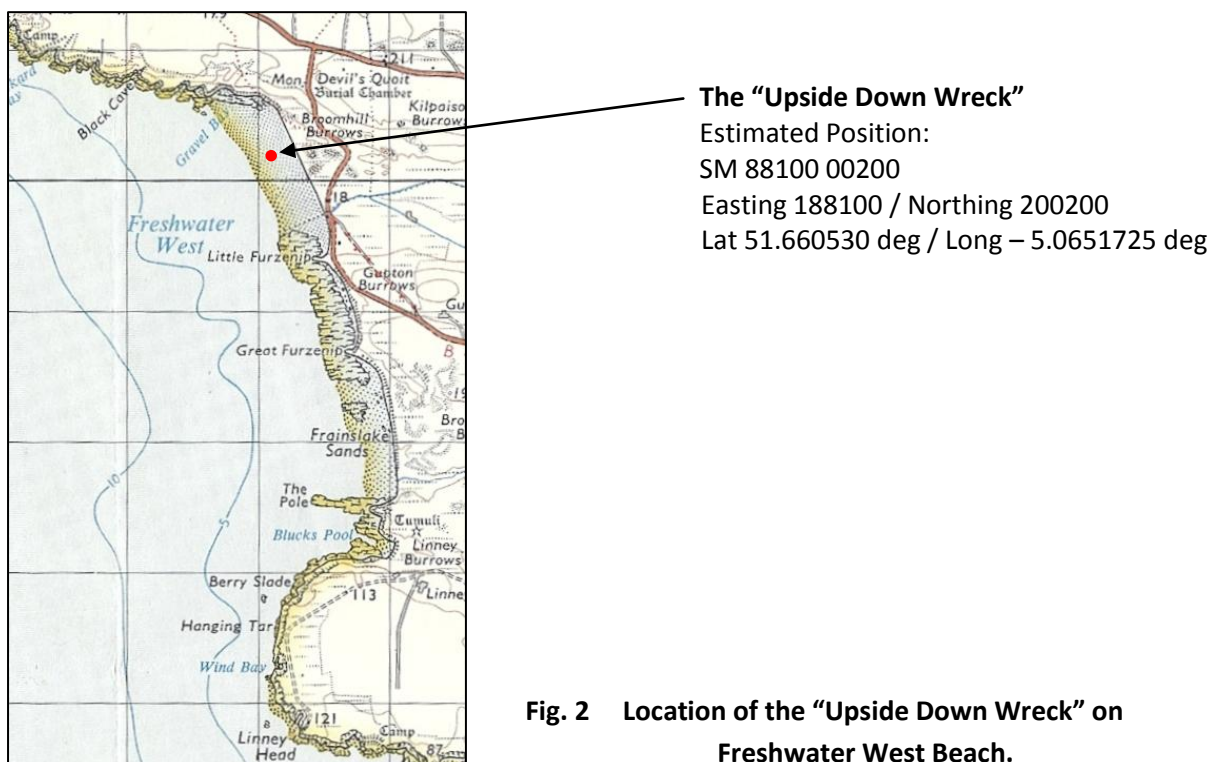


Fig. 2 Location of the “Upside Down Wreck” on Freshwater West Beach.

4.0 Description

Freshwater West Beach is just over 1km in length running almost north south, and at low water exposes an expanse of flat firm sand which extends approximately 350m from the water's edge to a range of high sand dunes which runs the length of the beach to the east.

At the time of the visit (14th March 2014), there were no observable features on the beach with the exception of the upside down remains of a wooden vessel comprising a length of keel, some outer planking fastened with iron pins, together with some main frames & filling frames that disappeared into the sand. These remains were lying in a scoured area of the beach with the exposed timbers measuring approximately 15.5m x 3.5m (see photographs on the front cover and Figs. 3 – 5 below).

Fig. 3 View of the site looking West towards the sea.



Fig. 4 View of the site looking East towards the sand dunes.



Fig. 5 View of the site looking South East towards the sand dunes.



5.0 Historical Record

As can be seen from Fig. 6 below which is taken from the RCAHMW Coflein web site (<http://map.coflein.gov.uk/index.php?ency=en>), the west facing Freshwater West Beach appears to have been the final resting place for numerous wrecked vessels over the years, some of which are known to have been blown ashore during storms on prevailing south westerly winds while attempting to enter the more sheltered waters of Milford Haven.

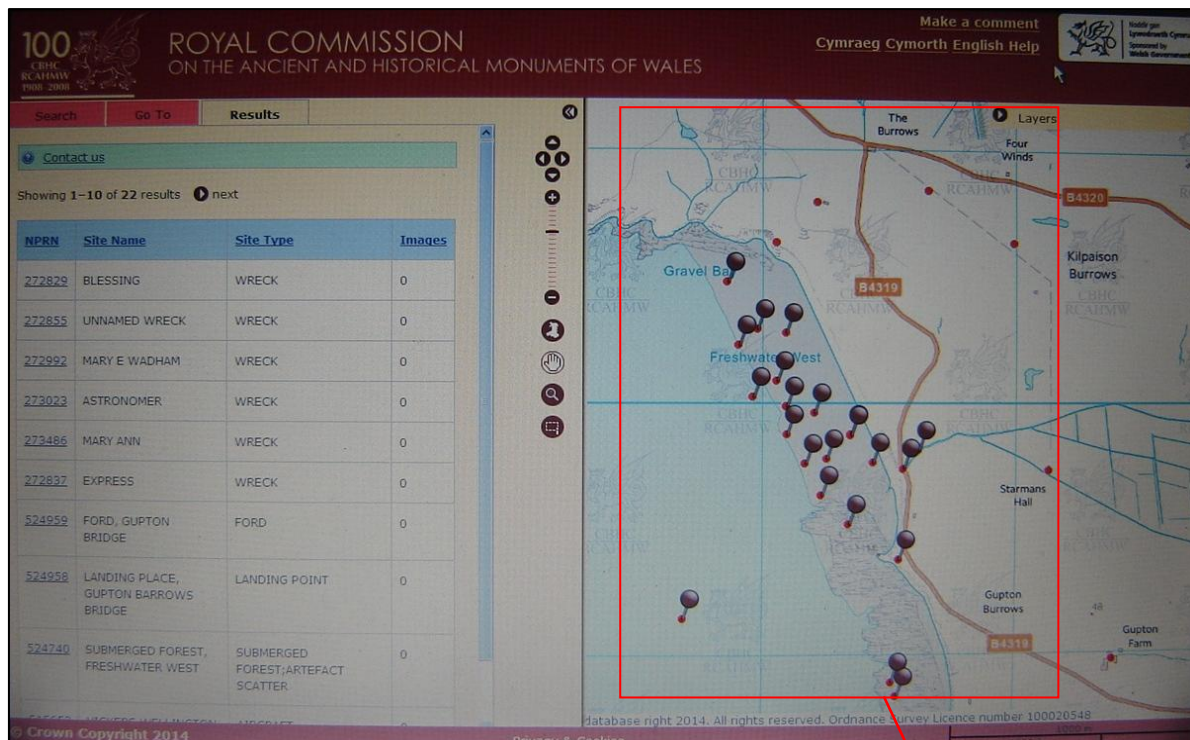
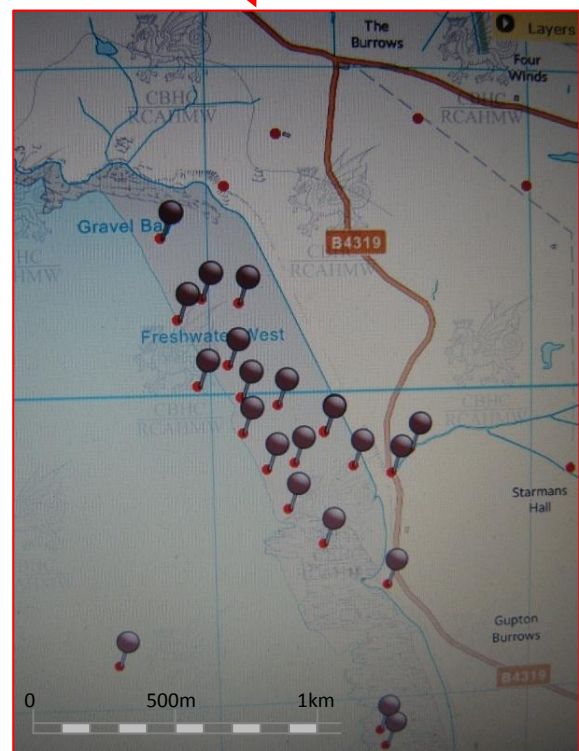


Fig. 6 Wrecks on Freshwater West Beach
(for further details see Appendix I).

The following is a list of places of archaeological interest listed on the RCAHMW's Coflein web site for Freshwater West Beach :

<i>Express</i>	<i>Willemoes</i>
<i>Astronomer</i>	<i>Thomas M Reed</i>
<i>Blessing</i>	unnamed wreck
<i>Cherokee</i>	<i>Mary Ann</i>
<i>Harmony</i>	Submerged Forest
<i>Dove</i>	Landing Point
<i>Ford</i>	Gupton Burrows Bridge
<i>Margaret Ann</i>	Aircraft (Wellington XII)
<i>Mary E Wadham</i>	<i>Princess Elizabeth</i>
<i>Lavabread Huts</i>	<i>Highland</i>
<i>Hope</i>	<i>Brothers</i>



6.0 Methodology

During the site visit, recording was carried out using 3 separate methods as follows.

6.1 Total Station Survey

The total station was set up on the beach inshore of the wreck (as can be seen in the Fig. 7), and its location established taking the back sight on a war memorial that overlooks the beach approximately 600m just east of north (see Fig. 8).



Fig. 7 The Total Station being used to record the site.

The Wreck Site

Fig. 8 A War Memorial overlooking the site.



The wreck was recorded using the Total Station, taking positional plots along the length of the keel at the junction of every main frame. The corners of the 3 exposed outer planks on the south side of the wreck and the 6 on the north side were also recorded. The raw data obtained from this exercise is included in Appendix III, and the results of the Total Station survey are included in Section 7.1.

Also recorded using the Total Station were two small features observed jutting out of the sand one approximately 20m to the south and the other approximately 43m to the east of the site.

6.2 Photographic Recording

An extensive photographic record of the wreck was made during the visit including an overview of the site, close up details of the exposed timbers over the entire length of the wreck on both the north and south sides plus views from above and the shoreward and seaward ends of the wreck.

Some of the results from the photographic recording exercise can be seen in Section 7.2.

6.3 Hulk Recording Overview

A Hulk Recording proforma was completed which lists the salient features observed as well as an overview of the work carried out, and this record is included in Appendix II.

7.0 Results

The results from the day's survey and recording work are diagrammatically & pictorially displayed on the following pages as follows:

7.1 Total Station Survey

The raw data obtained from the Total Station survey is included in Appendix III and once the relevant X & Y co-ordinates were extracted, an overall site plan for the wreck, its keel and outer planking was produced (see Fig. 9 below).

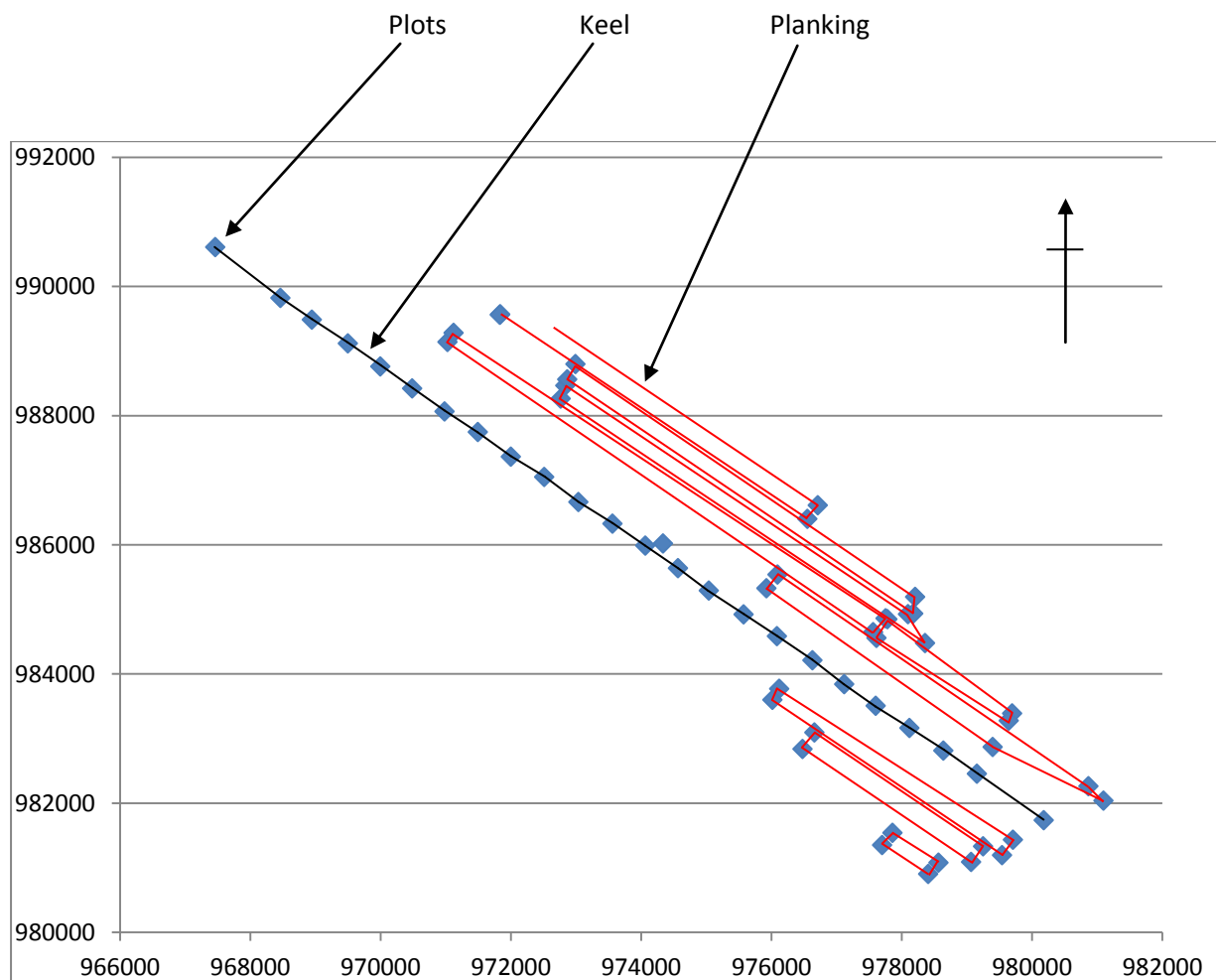


Fig. 9 Plot of the Keel and Outer Planking derived from the Total Station data.

Using the plot above, together with reference to the photographic record and some sketches made while on site, an AutoCad drawing showing the observed keel, outer planking and the vessels main frames has been produced (see Fig 10 below).

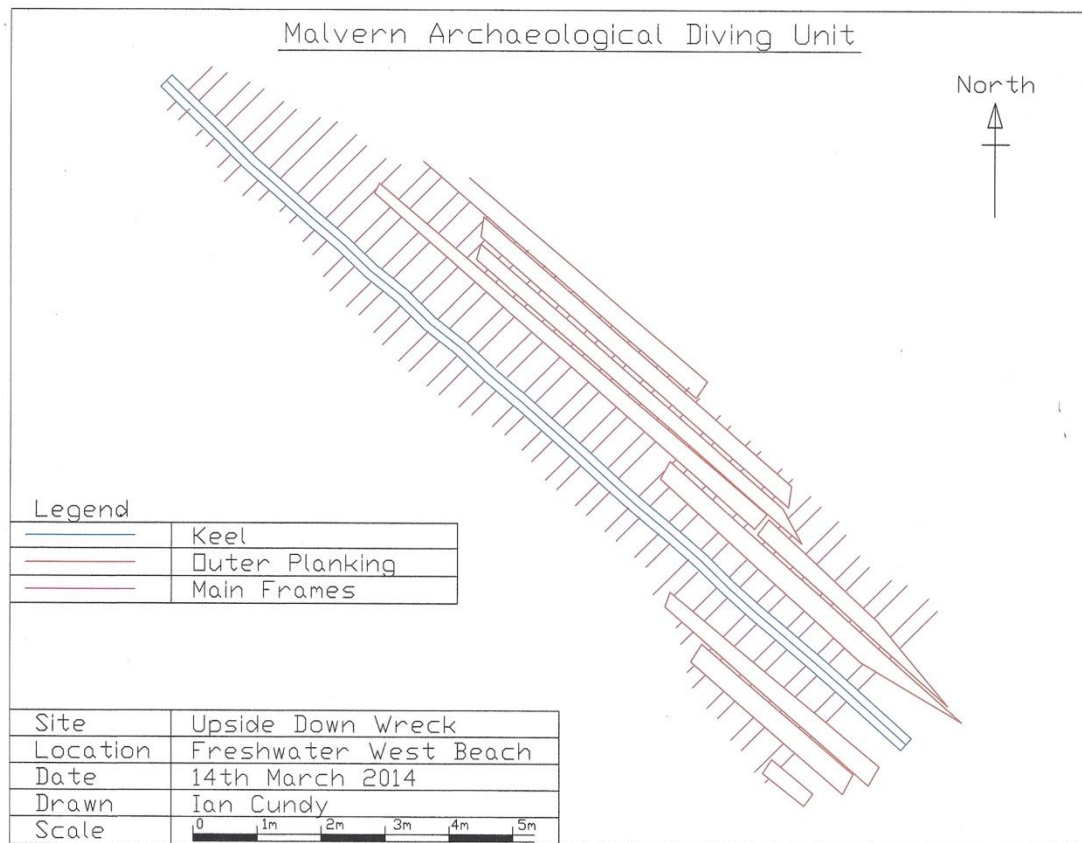


Fig. 10 Autocad drawing of the “Upside Down Wreck”.

As mentioned above, two small features were observed off the site. Fig. 11 shows pieces of timber that were approximately 20m to the south, and Fig. 12 shows a piece of timber and some concretion that was approximately 43m to the east of the site. These may be disarticulated parts of the “Upside Down Wreck”, or part of one of the other wrecks that may also lie beneath the sand (see Fig. 6).



Fig. 11 Feature observed ~20m South of the site.



Fig. 12 Feature observed ~43m East of the site.

While surveying the wreck's timbers using the Total Station, the two off site features were also recorded, and having extracted the X & Y co-ordinates from the raw data, Fig. 13 shows where these features were observed with respect to the "Upside Down Wreck's" keel.

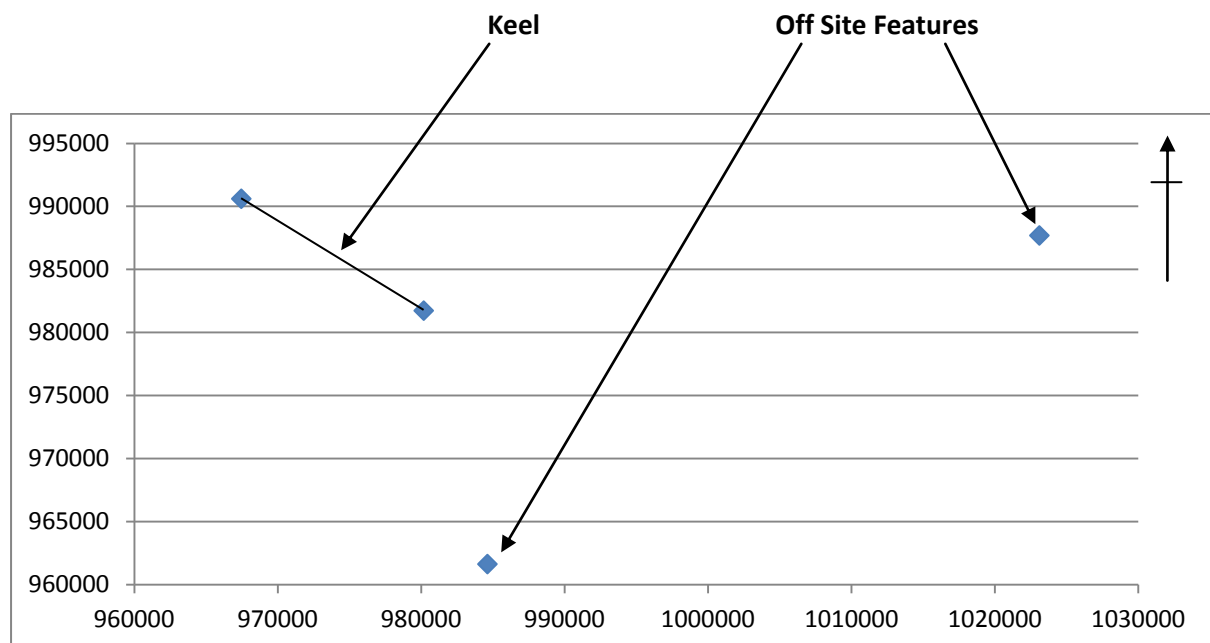


Fig. 13 Plot of the Keel and two off site features derived from the Total Station data.

7.2 Photographic Recording

Below is a selection of some of the close up photographs taken of the timbers during the site visit.



Fig. 14 Keel & Main Frames at the Seaward end of the Site.



Fig. 15 Keel, Main Frames and Outer Planking at the Shoreward end of the Site.



Fig. 16 Some of the Timbers viewed from the North.



Fig. 17 Photomosaic View of the North Side of the Site.



Fig. 18 Some of the Timbers viewed from the South.



Fig. 19 Photomosaic View of the South Side of the Site.



Fig. 20 Keel, Main Frames and Outer Planking at the Shoreward end viewed from above.

7.3 Hulk Recording Overview

During the site visit a Hulk Recording proforma was completed and this is included in Appendix II.

In addition to the above, during the course of our time on the beach, we were approached by several people attracted by the exposed timbers and our activities associated with the wreck. We answered their questions where we could but also took the opportunity to ask them about their own observations relating to the wreck and any other remains they may have seen on the beach over the years. Several people we spoke to had been walking their dogs for many years on this beach, and from our conversations with them it would appear that this is the first time that this wreck had been seen for at least 20 years.

8.0 Conclusions & Recommendations

The current survey was carried out in March 2014 following a series of extreme winter storms, and the timbers that were exposed on Freshwater West Beach by the storms do not appear to have been seen for at least 20 years. It is anticipated that subsequent tides will re-bury the wreck, and as such the value and importance of undertaking urgent inspection and recording of sites such as this when they become exposed should not be underestimated.

In this respect we would recommend that Cadw ring fence part of their annual budget to finance emergency investigation and recording of sites so that work can be undertaken when the need arises without necessitating lengthy funding applications and grant approvals.

The main purpose of the site visit was to inspect and record the exposed timbers that had been observed on Freshwater West Beach, and this report contains the findings and results obtained. A spinoff from this would however be if the wreck to which these timbers form a part could be identified.

As can be seen from Appendix I (Wrecks on Freshwater West Beach taken from the RCAHMW Coflein Web Site), there are a number of possible candidates. This may of course not be an exhaustive list of vessels that have been wrecked or deposited remains on this beach, however from the 16 vessels listed as having been wrecked on this beach which is only just over a kilometre in length, some elimination from Coflein's list is possible.

The hull of the "Upside Down Wreck" is constructed from timber, so the iron & steel vessels *Astronomer*, *Highland Home* & *Mary E Wadham* can be eliminated. There is also no sign of any engine, so the steamship *Margaret Ann* can be eliminated. The exposed keel measures 15.5 m (50ft 10ins) long, so the 37ft 6ins long vessel *Dove*, and the *Mary Ann* which is described as a smack can probably be eliminated.

Assuming the co-ordinates provided on Coflein are close to the sites of wrecking, the *Brothers* is ~ 1.43km away from the "Upside Down Wreck", *Hope* ~ 1.37km away, *Princess Elizabeth* ~ 715m away, *Express* ~ 363m away, *Harmony* ~ 325m away, *Cherokee* ~ 313m away, unnamed wreck ~ 225m away, *Thomas M Reed* ~ 196m away, *Willemoes* ~ 153m away, and the *Blessing* ~ 123m away.

So the most likely contenders would be the *Blessing*, *Willemoes*, *Thomas M Reed*, the unnamed wreck, *Cherokee*, *Harmony* and the *Express* which are all reported to be wooden sailing vessels that wrecked less than 500m from the site of the "Upside Down Wreck".

Fig. 21 Shipwrecks listed on Coflein close to the "Upside Down Wreck".



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9.2 Web Sites

Coflein

<http://map.coflein.gov.uk/index.php?ency=en>

Dyfed Archaeological Trust

<http://www.dyfedarchaeology.org.uk>

Nautical Archaeology Society

<http://www.nauticalarchaeologysociety.org/>

Pembrokeshire Coast National Parks Authority

<http://www.pembrokeshirecoast.org.uk/default.asp?PID=4>

Royal Commission on the Ancient and Historical Monuments of Wales

<http://www.rcahmw.gov.uk/>

UK Grid Reference Finder

<http://gridreferencefinder.com/#>

Appendix I - Wrecks on Freshwater West Beach (taken from the RCAHMW Coflein Web Site)

Wrecks on Freshwater West Beach (ref. Coflein)

Name	NPRN	Wrecked	OS Map Ref.	Type	Material	Built			Tonnage	Dimensions			Owner	Captain	Registered		Passage		Losses	Cargo				
Wrecks						By	Location	Year		Length	Beam	Draft			Port	No.	From	To						
Astronomer	273023	23/03/1886	SM 88087 00275	barque	iron	T Vernon & Son	Liverpool	1859	1119gt/nt	191ft 0ins	34ft 2ins	23ft 0ins	J F Browne (Liverpool)	Maloney	St. Johns, Newfoundland	28181	Port Pirie Dungarvan Trinity New Calabar	Dublin	all onboard	wheat pigs				
Blessing	272829	18/12/1833 *	SM 88052 00087	schooner	wooden																			
Brothers	273396	15/09/1819	SR 88526 98831	schooner	wooden																			
Cherokee	272857	27/08/1831	SR 88089 99986	sailing vessel	wooden																			
Express	272837	08/10/1836	SM 87860 00474	sailing vessel	wooden									Evans	Aberystwyth		Newport	Bridport	none	coal				
Dove	273478	13/10/1841	SR 88341 99875	sloop	wooden		Milford Haven	1786	23	37ft 6ins	12ft 1ins	6ft 2ins	John Morgan	owner									Saundersfoot	Wicklow
Harmony	272181	02/02/1861	SR 88091 99874	brig	wooden			1845																
Highland Home	273100	01/07/1894 *	SR 87687 99145	barque	iron	Ramage & Ferguson	Leith	1886	1371gt/1298nt	234ft 0ins	37ft 0ins	21ft 2ins	J R Cuthbertson (Glasgow)								99250	Fleetwood	London	
Hope	273362	11/12/1823	SR 88507 98888	sailing vessel	wooden									Richard Jones (Borth) & others G Bargate & Co	C Holmes	Wexford Aberystwyth	Barnstaple Briton Ferry Saundersfoot Swansea	Pembroke Wexford Drogheda Belfast	1 person (master)	coke				
Margaret Ann	273157	15/12/1918	SR 88247 99778	steamship	wooden			1868	80gt															
Mary Ann	273486	20/07/1841	SR 88199 99959	smack	wooden		Garreg Belfast	1840																
Mary E Wadham	272992	08/01/1888	SR 88227 99634	cargo vessel	steel	Macilwaine & Lewis		1882	737gt/452nt	192ft 3ins	27ft 1ins	15ft 7ins												
Princess Elizabeth	273340	06/03/1825	SR 88333 99519										E & A Sewell (Bath, Maine) J A Anderson	L B Hansen	New Quay	Bristol San Francisco Caernarfon	Liverpool Liverpool Erquy	2 people						
Thomas M Reed	272601	12/01/1879	SM 87905 00227	fully-rigged ship	wooden	J Ringanderson	Svenbourg	1911	1516nt	108ft 0ins	26ft 5ins	10ft 8ins												
Willemoes	273193	27/12/1924	SM 87977 00291	schooner					186gt/157nt															
unnamed	272855	15/11/1840	SM 87959 00024	schooner																				
Other Sites																								
Landing Point	524958		SR 88429 99765																					
Submerged Forest	524740		SR 88342 99870																					
Wellington	515652	09/04/1944	SR 88163 9960	XII MP638		Vickers-Armstrong	Weybridge																	

* Date prior to

Name	Reason for Wrecking	Misc. Details	Notes
Wrecks			
Astronomer	Stranded	2-decks, 2-bulkheads, 40ft passenger deck, 25ft forecastle	Possibly Freshwater East Beach
Blessing	Driven ashore	Recently repaired with new standing rigging	
Brothers	Gone ashore in fog	Fore & mizzen masts were cut away	
Cherokee			
Express			
Dove	Driven ashore	Standing bowsprit, square stern, carvel built	Letter "O", ship's bell, portholes, silver coffee pot, binoculars reported to the Receiver of Wreck.
Harmony	Caught in Force 10 SSW gale		
Highland Home	Under tow by tug <i>Warrior</i> which parted	1-deck, 1-bulkhead, 31ft passenger deck, 28ft forecastle	
Hope			
Margaret Ann	Ran ashore		Possibly Freshwater East Beach
Mary Ann			
Mary E Wadham	Ran aground	Built in Yard number 12, 1-deck, 5-bulkheads, 32ft quarterdeck, 48ft boat deck, 58ft forecastle, screw propulsion, single boiler, 96hp compound engine no. 83981	
Princess Elizabeth		A pocket book gilt-embossed "Owen Thomas, Princess Elizabeth, New Quay" recovered.	
Thomas M Reed	Southerly Force 9 gale		
Willemoes	Went ashore		
unnamed			
Other Sites			
Landing Point		Gupton Barrows Bridge, tracks from local quarries & gravel pit	
Submerged Forest		Flint axe etc recovered eroding out of the peat	
Wellington	Engine cut out during radar trials	Bellylanded on beach	

Appendix II – Intertidal Hulk Recording Form

PERSONAL DETAILS:		SITE DETAILS:	
Surveyors Names	IAN CUNDY	Site Name	WPSIDOWN WRECK
Contact Details	17 HANSTOLD ROAD MALVERN, WORCS WR14 1EQ	Location	FRESHWATER WEST
Tel. No.	01684 574774	Map Ref.	Lat.
E-mail	diving@midn.freemove.co.uk	MAP 158 SR1	Long.
		Date	OS N 881 002 14TH MARCH 2014

Vessel Details	NMR Nos.			
	Name			
	Type	Military	Commercial	
	Dimensions (LxWxH)	m	m	m

Sketch

SHORE
END

ELEVATION LOOKING
SOUTH

SEA
END

North

WPSIDOWN WRECK
ON FRESHWATER
WEST BEACH
POMFRETSHIRE

PLANK S1
 PLANK S2

PLANKING FRAMES - VARIABLE 200 to 240 x ?
 KEELSON - 300 x 250
 OUTER PLANKING - 300 x 60
 KEEL - 340 x 250 x 15.5m LONG
 MAIN FRAMES - 230 x 200
 0m

Hull	Material	Wood <input checked="" type="checkbox"/>	Iron	Steel
		Aluminium	GRP	Concrete
	Construction	Dugout	Carvel <input checked="" type="checkbox"/>	Clinker
		Double Diagonal	Rivited	Welded
		Moulded		
Hull Features	Keel <input checked="" type="checkbox"/>	Keelson <input checked="" type="checkbox"/>	Mast step	Toolmarks <input checked="" type="checkbox"/>
	Bow Stem	Stern Post	Port Side <input checked="" type="checkbox"/>	Starboard Side <input checked="" type="checkbox"/>
	Frames <input checked="" type="checkbox"/>	Size SEE ABOVE	Spacing SEE TOTAL STATIONS	Limber Holes
	Outer Planking <input checked="" type="checkbox"/>	Inner Planking	Caulking	Surface Treatment
	Deck Beams	Deck Timbers		
	Wales/Stringers	Internal	External	
	Bulkheads ?	Bulwarks	Scuppers	
Fastenings	Treenails	Iron Pins <input checked="" type="checkbox"/>	Non-ferrous Pins	Sewn
Metalwork	Knees	Breasthooks	Hatch Frames	Hull Sheathing
	Portholes	Deck Lights	Ventilators	Bell
	Chain Plates	Pump	Davits	

PTO

Propulsion	Engine (steam)		Boilers	Cylinders	Funnels
			Make	Model	
	Engine (diesel/petrol)		Size	Cylinders	
			Make	Model	
	Gearbox		Make	Model	Ratio
	Drive		Shafts	Props	Size
	Mounts		Engine	Gearbox	Stern Gear
	Fuel		Coal	Diesel	Petrol
	Sail	Spars	Masts	Yards	Boom
			Bow Spit	Jib	
		Sails	Square	Fore / Aft	
			Chain Plates	Dead Eyes	Bowsprit Cap
		Fittings	Blocks (pulleys)	Belaying Pins	
	Manpower		Barge	Towed	
Steering	Tiller		Wheel	Quadrant	Rudder
	Gudgeon / Pintle		Skeg	Worm Gear	
Control/Instruments	Telegraph		Binacle	Compass	
Mooring	Anchor		Hawse Pipe	Chain / Shackles	Cable / Turnbuckles
	Winch / Capstain		Bollards	Cleats	Fairleads
Armaments	Cannon		Cannon Balls	Shot	
Cargo					

Recording Details	Survey	TOTAL STATION & TAPES
	Photographs	YES
	Video	NO
	Drawings	SOME
	Timber Sampling	NO
	Dendrochronology	NO

Research	ONE OF ~ 20 WRECKS SHOWN ON COFLIN	
	THIS WRECK HAS BEEN EXPOSED FOLLOWING RECENT STORMS, & IS THE FIRST TIME IT HAS BEEN SEEN FOR > 20 YEARS (DERIVED FROM TALKING TO LOCAL BEACH WALKERS)	

Further Details	THIS WRECK IS UPSIDE DOWN	
	THE TOTAL STATION WAS POSITIONED WITH RESPECT TO A MEMORIAL ON THE HILL	
	2 ADDITIONAL STRUCTURAL MEMBERS WERE ALSO NOTED OFF THE SITE - TIMBERS ~ 30m SE & TIMBER + CONCRETION ~ 50m E	

Notes:

Please circle items observed & add quantities, dimensions and any further details that may be of interest.

Appendix III – Total Station Raw Data

Position of the Keel at the Main Frames

[illegible]

Positions of the Exposed Outer Planking Corners

[illegible]



Fig. 22 South East Corner of the Site showing the Keel, Main Frames and Outer Planking.



Fig. 23 Site viewed from the South West.

Fig. 24 Bill Turner recording using the Total Station

