



Existing Designated Historic Assets: Transition to Historic Marine Protected Areas and Identification of Biodiversity/Geodiversity Value



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and Identification of Biodiversity/Geodiversity Value**

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WA Ref: 73210.04

August 2010

Title:	Existing Designated Historic Assets: Transition to Historic Marine Protected Areas and Identification of Biodiversity/Geodiversity Value
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Origination date:	December 2010
Date of last revision:	13 August 2010
WA Ref; Version:	73210.04
Wessex Archaeology QA:	Jonathan Benjamin
Status:	Final
Summary of changes:	Minor corrections; appendices revised
Associated reports:	
Client Approval:	

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Acknowledgements

This project was commissioned by Historic Scotland with the support of Marine Scotland. Further assistance was provided by Scottish Natural Heritage. We are grateful to Philip Robertson of Historic Scotland, Philip Alcock and Chris Bierley of Marine Scotland, and Katie Gilham and Alistair Rennie of Scottish Natural Heritage for their help and advice.

This report has been prepared by Antony Firth, Stuart Churchley and Stephen Lancaster of Wessex Archaeology, and Claire Dalgleish of Marine Ecosystems. Kitty Brandon prepared the illustrations. QA was provided by Jonathan Benjamin. Antony Firth managed the project for Wessex Archaeology.

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1. INTRODUCTION

1.1. Background

- 1.1.1. WA has been commissioned by Historic Scotland to carry out a rapid desk-based study on the possible transition of up to 15 existing designated historic sites to Historic Marine Protected Area (Historic MPA) status, as a consequence of the Marine (Scotland) Act 2010 (asp 5). The 2010 Act is published in pdf format at: http://www.oqps.gov.uk/legislation/acts/acts2010/pdf/asp_20100005_en.pdf).
- 1.1.2. WA prepared a method statement based on a Project Outline provided by Historic Scotland, dated 5 November 2009, which sets out the background to the study. The objectives set out in the Project Outline are as follows:
- a) to collate, review and summarise relevant information, then compile recommendations relating to the future transfer by Historic Scotland of the existing designated historic sites to become Historic MPAs, as well as the use of Marine Conservation Orders.
 - b) to collate, review and summarise relevant baseline data/information relating to the biodiversity/geodiversity of existing designated site.
- 1.1.3. The existing designated historic sites are as follows:

Sites currently designated under Section 1 of the Protection of Wrecks Act 1973	
Sound of Mull	<i>Dartmouth</i> <i>Duart Point</i>
Forth	<i>Burntisland</i> <i>HMS Campania</i>
Shetland	<i>Wrangels Palais</i> <i>Kennemerland</i>
NW Sutherland	<i>Kinlochbervie</i>
Ardnamurchan	<i>Mingary Castle</i>
Sites currently designated under the Ancient Monuments and Archaeological Areas Act 1979	
Scapa Flow	<i>Kronprinz Wilhelm</i> <i>Markgraf</i> <i>Konig</i> <i>Karlsruhe</i> <i>Koln</i> <i>Brummer</i> <i>Dresden</i>

- 1.1.4. It was anticipated that the eight sites designated under the PWA 1973 will be addressed as eight provisional Historic MPAs, and the seven sites designated under the AMAA 1979 as a single Historic MPA.

1.2. Scope

1.2.1. The scope of works, based on the Project Outline, is set out in the following table:

Task No	Scope
1	Start up meeting
2	<p>For each existing designated historic site, collate, review and summarise:</p> <ul style="list-style-type: none"> • Site designation information; • GIS data; • Histories of research/investigation; • Casework histories; • Information about socio-economic activities in vicinity.
3	<p>Make recommendations on transition of existing designated historic sites to Historic MPA status, taking into account:</p> <ul style="list-style-type: none"> • Scottish Ministers' provisional policies for designation and management of Historic MPAs; • Background material collated under item 2; • Any other relevant information. <p>Recommendations will specify:</p> <ul style="list-style-type: none"> • Asset for protection; • Potential boundaries for protected area; • Preservation objectives for asset and area.
4	<p>Make recommendations on the requirement for marine conservation orders, taking into account:</p> <ul style="list-style-type: none"> • Scottish Ministers' provisional policies for designation and management of Historic MPAs; • Background material collated under item 2; • Casework histories; • Socio-economic use of assets/areas; • Any other relevant information. <p>Recommendations will specify:</p> <ul style="list-style-type: none"> • What activities should be prohibited, regulated or restricted; • Potential boundaries of orders; • How activities should be authorised.
5	<p>Compile audit and summarise available data and information on biodiversity and geo-diversity of existing designated historic sites and the seabed within protected areas.</p> <ul style="list-style-type: none"> • To include available video and photography; • Data relating to seabed immediately beyond the protected areas may be used in support.
6	<p>Provide further conclusions/recommendations relating to the programme of transition to Historic MPA status and assessment of biodiversity/geo-diversity value.</p> <ul style="list-style-type: none"> • To include explanations of strengths/weaknesses in analysis and processes

7	Compile project report. <ul style="list-style-type: none"> To include GIS data delineating the suggested extent of: a) potential Historic MPAs; and b) potential marine conservation orders.
8	Completion meeting and report revisions.

- 1.2.2. It has been noted that the report will be considered to fall within the scope of the Freedom of Information (Scotland) Act 2002.

1.3. Structure of this Report

- 1.3.1. This report details the methods used in the course of the project and provides general commentary. Details of each site are set out in an Appendix, ordered clockwise by sea area and labelled A-I as follows:

Sea Area	Locality	Site	Appendix
Malin	Sound of Mull	<i>Dartmouth</i>	A
		<i>Duart Point</i>	B
	Ardnamurchan	<i>Mingary Castle</i>	C
Hebrides	NW Sutherland	<i>Kinlochbervie</i>	D
Fair Isle	Scapa Flow	<i>Kronprinz Wilhelm</i>	E
		<i>Markgraf</i>	
		<i>Konig Karlsruhe</i>	
		<i>Koln</i>	
		<i>Brummer</i>	
		<i>Dresden</i>	
		<i>Salvage Sites</i>	
	Shetland	<i>Kennemerland</i>	F
		<i>Wrangels Palais</i>	G
Forth	Firth of Forth	<i>Burntisland</i>	H
		<i>HMS Campania</i>	I

- 1.3.2. Appendices A-I are bound separately.

2. HISTORIC MPAs: THE LEGAL AND POLICY FRAMEWORK

2.1. Outline

- 2.1.1. The 2010 regime provides for the designation of Historic MPAs. Two forms of protection apply immediately on designation:
- First, there is a relatively restricted range of prohibited acts with respect to HMPAs;
 - Second, there are duties on public authorities with respect to HMPAs, including any authorisations (e.g. licensing) they may make with respect to HMPAs.
- 2.1.2. A third form of protection may also apply, in that Marine Conservation Orders (MCOs) may be made in respect of HMPAs. MCOs can regulate a wide range of activities and provide for activities to be authorised, including activities that would otherwise be prohibited acts.
- 2.1.3. MCOs are a form of discretionary protection and, with respect to MCOs for nature conservation, The Scottish Government has indicated that ‘the intention is that MCOs will only be made where they are absolutely necessary where other measures, such as voluntary measures, management schemes, or public authority duties, are not thought sufficient for the type of management restriction required’ (Richard Lochhead, Cabinet Secretary for Rural Affairs and the Environment, 10 January 2010). Whilst MCOs for Nature Conservation MPAs may be a ‘last resort’ it is expected that they will be used more proactively for Historic MPAs.
- 2.1.4. The Scottish Government has also indicated that ‘there should be a presumption of use of sites unless there is a good reason to specify otherwise’ (Richard Lochhead, Cabinet Secretary for Rural Affairs and the Environment, 10 January 2010). Whilst it may be the general intention not to restrict access and activity, it should also be recognised that the sensitivity of marine historic assets may provide ‘good reason’ for use of a site to be curtailed.
- 2.1.5. In view of the profile of Nature Conservation MPAs, it is recommended that the distinctive policies towards Historic MPAs should be underlined.

2.2. Application and Extent

- 2.2.1. Part 5 of the Marine (Scotland) Act 2010 makes provision for marine protection and enhancement in the Scottish marine protection area.
- 2.2.2. The Scottish marine protection area is the Scottish marine area excluding waters upstream of the freshwater limit of estuaries (s. 65). The Scottish marine area is the territorial sea of the UK adjacent to Scotland, i.e. to the 12 nautical mile (nm) limit, including the seabed and subsoil (s. 1).
- 2.2.3. It should be noted that use of the 12 nm limit is recognised to be ‘shorthand’ as the distance is measured from baselines which – although generally being mean low water – can in certain cases be a distance out to sea. This is particularly true where straight baselines have been drawn to encompass deeply indented coastlines and fringing islands, notably on the north west coast of Scotland. Consequently, in some areas the Scottish marine area and the Scottish marine protection area extend considerably further than 12 nm from the shore.

- 2.2.4. The primary focus of marine protection and enhancement within 12 nm under Part 5 is the provision for Marine Protected Areas (MPAs). MPAs can include islands within their area, including areas of islands above mean high water spring tide (MHWS) (s. 67(2)).
- 2.2.5. Beyond 12 nm (i.e. within the UK EEZ / renewable energy zone / Continental Shelf), provision for the designation of marine protected areas has been made – in the form of Marine Conservation Zones (MCZs) – under the Marine and Coastal Access Act 2009 and – in the form of Special Areas of Conservation under the Offshore marine Conservation (Natural Habitats &c.) Regulations 2007. A project on the relation between MCZs and the historic environment is currently being undertaken on behalf of English Heritage.
- 2.2.6. It is recommended that the relation between MPAs and the historic environment in Scottish offshore waters (beyond 12 nm) should be explored.

2.3. Marine Protect Areas

Types and Administrative Responsibility

- 2.3.1. Part 5 provides for designation of three types of MPA (s. 67(1)):
- Nature Conservation MPA
 - Demonstration and Research MPA
 - Historic MPA
- 2.3.2. Advice and guidance on Nature Conservation MPAs and Demonstration and Research MPAs can be given by Scottish Natural Heritage (SNH) (s. 80). Scottish Ministers can give advice and guidance on any particular MPA or category of MPA and (through Historic Scotland) on matters capable of damaging or otherwise affecting any marine historic asset in a Historic MPA, and on how stated preservation objectives may be furthered or hindered (s. 81(1)(b-c)).
- 2.3.3. It is recommended that the role of Scottish Ministers and Historic Scotland in giving advice and guidance – and the anticipated scope of that advice and guidance – is made clear to stakeholders in the marine and heritage spheres, and amongst the wider public.
- 2.3.4. The policy background to the introduction of Nature Conservation and Demonstration and Research MPAs has recently been set out in guidelines (Marine Scotland, March 2010). These guidelines also outline how Historic MPAs will be used within an integrated approach to protection and enhancement of the marine environment (Marine Scotland March 2010 paras 6.36-6.40). The guidelines note:
- ... there is a recognition that [marine historic assets] and the seabed that surrounds them can also be of value from a nature conservation perspective. Where historic assets have protected status, this can deliver secondary benefits for nature conservation. As such it is considered that Historic MPAs have the potential to contribute to biodiversity and geodiversity policy aims ...
- ... there is also recognition that Nature Conservation MPAs may have the potential to deliver incidental benefits for assets of historical or archaeological interest within their boundaries. (Marine Scotland March 2010 para. 6.40)
- 2.3.5. Provisional policies for the designation and management of Historic MPAs have been set out by Historic Scotland (December 2009). These policies mirror the

Marine Scotland guidelines regarding the potential for Historic MPAs to contribute to biodiversity or geodiversity aims (Historic Scotland December 2009 paras. 3.3 and 3.5d).

Procedure

- 2.3.6. MPAs are designated by Scottish Ministers through a designation order (s. 67(1)). Designation orders can be amended or revoked by a further order (s. 74).
- 2.3.7. Before a designation order can be made, Scottish Ministers must publish notice of their proposal including its terms, and consult people they consider likely to be interested in or affected by the order being made (s. 75). Consultation is, in particular, to include any local authorities whose area is adjacent to the proposed boundaries, and including those specified in s. 27(4)(a). When the order is made it must also be published and made available (s. 76).
- 2.3.8. Scottish Ministers may provide opportunities for representations in the course of deciding whether to make an order (for designation, amendment or revocation) (s. 78).
- 2.3.9. It is recommended that the procedures for making, amending and revoking designation orders are made clear, including the scope and details of consultation procedures and opportunities for representation.

2.4. Urgent Designation

- 2.4.1. There is provision to make an urgent designation under s. 77 that can remain in force for up to two years, dispensing with the need for prior notice or consultation if there is 'urgent need' to protect the area or a marine historic asset within the area. If the order is intended to remain in force for more than six months it must be reviewed after six months to see if it is still required. Once an urgent designation order has expired the area cannot be re-designated unless a notice has been published and consultation has occurred.
- 2.4.2. It is recommended that the anticipated scope of the potential application of urgent designation is indicated to stakeholders, using possible scenarios for urgent designation by way of illustration.

2.5. Historic MPAs

Criteria

- 2.5.1. The requirements for designating an area as a Historic MPA (HMPA) are as follows (s. 73(1)):
 - Scottish Ministers consider it desirable to do so ...
 - for the purposes of preserving ...
 - a marine historic asset ...
 - of national importance ...
 - which is, or which they are satisfied may be, located in the area.
- 2.5.2. The designation order has to do the following (s. 73(2)):

- Specify any marine historic asset located – or which Scottish Ministers are satisfied may be located – within the area;
- State the preservation objectives for a) the asset and b) the area;
- Identify the area's boundaries. The boundary may be determined by MHWS, or by reference to MHWS (s. 63(3)). A HMPA may include an area of 'seashore' lying above MHWS if it adjoins the area of sea (s. 63(4)), as well as islands (under s. 58(2)).

2.5.3. A marine historic asset is defined as (s. 73(5)):

- A vessel, vehicle or aircraft (or a part of a vessel, vehicle or aircraft);
- The remains of a vessel, vehicle or aircraft (or part of such remains);
- An object contained in, or formerly contained in, a vessel, vehicle or aircraft;
- A building or other structure (or a part of a building or structure),
- A cave or excavation;
- A deposit or artefact (whether or not formerly part of a cargo of a ship) or any other thing which evidences previous human activity (or groups of things which evidence human activity).

2.5.4. 'Vehicle' includes bicycle or other non-motorised form of transport and hovercraft; 'vessel' includes hovercraft, aircraft capable of landing on water, and any other craft capable of travelling on, in or under water, whether or not capable of carrying any person (s. 106).

2.5.5. This definition is summarised in Appendix IV alongside definitions of the entities that may be designated under the Protection of Wrecks Act 1973 and the Ancient Monuments and Archaeological Areas Act 1979.

2.5.6. Provisional guidance on the determination of national importance has been provided as an appendix to draft *Provisional Policies on the Designation and Management of Historic Marine Protected Areas* submitted to the Scottish Parliament (dated 18 December 2009). The guidance proposes that in considering whether an asset is of national importance it is first necessary to establish that it has particular cultural significance – artistic; archaeological; architectural; historic; traditional; aesthetic; scientific; social – for past, present or future generations. Cultural significance comprises characteristics that are intrinsic, contextual and/or associative characteristics. If the cultural significance of an asset has been identified and understood, it may be considered to have national importance in terms of one or more of the following:

- a. its inherent capability or potential to make a significant addition to the understanding or appreciation of the past;
- b. its retention of the structural, technical, decorative or other characteristics of its kind to a marked degree;
- c. its contribution, or the contribution of its class to the marine historic environment and/or the wider marine environment;
- d. the quality and extent of any documentation or association that adds to the understanding of the asset and its context;
- e. the diminution of the potential of a particular class or classes of asset to contribute to an understanding of the past, should it be lost or damaged.

The *Provisional Policies* also note a further factor that may be considered in support of other factors (but presumably is insufficient on its own) namely:

- f. its place in the national or international consciousness...

- 2.5.7. The requirements for designating an area in s. 73(1) serve as a series of ‘tests’, informed by other provisions and policies, that need to be satisfied if designation is to occur. Accordingly, these tests have been used to structure recommendations in Appendices A-I, as follows:

Character of Marine Historic Asset	Do the items qualify as a marine historic asset as defined by s. 73(5)?
Location in Area	Is the marine historic asset definitely within the proposed HMPA, or can Scottish Ministers be <i>satisfied</i> that it <i>may be</i> within the proposed HMPA?
National Importance	Is the marine historic asset of national importance consistent with provisional guidance?
Purpose of Preservation	Will designation contribute to the preservation of the marine historic asset? (i.e. is the asset at risk from an act or activity that falls within the scope of HMPA provisions? – and see 2.6 below)
Desirability	In the view of Scottish Ministers, is it desirable to designate? NB The <i>Provisional Policies</i> note that designation may not be the only, or the most appropriate, mechanism to secure the future of all assets, even those that may otherwise meet the criteria.

- 2.5.8. It is worth noting that the requirements for designation orders in s. 73(2) provide a further four ‘tests’ for a designation to be valid, encompassing both the asset and the area:

- Specify the marine heritage asset
- State the preservation objectives for the asset
- State the preservation objectives for the area
- Identify the area’s boundaries

- 2.5.9. It should be recalled that a designation order could also be challenged on procedural grounds, with reference to ss. 75, 76 and 78 etc.

- 2.5.10. The Scottish Government has indicated that ‘it is not Scottish Ministers’ intention to increase substantially or rapidly the number of designated marine historic assets ... we currently envisage a gradual increase in designations as our knowledge improves and we move to be able to apply designation to historic assets other than wrecks’ (Richard Lochhead, Cabinet Secretary for Rural Affairs and the Environment, 10 January 2010). The document refers to an earlier ‘tentative estimate of 15 designations during the next decade’ but that ‘we do not see this estimate as a barrier to future use’.

- 2.5.11. There is no legal provision with respect to the extent of HMPAs except that the boundaries must be defined. However, it should be borne in mind that it is the area that must satisfy the tests of desirability and of having the purpose of preserving a

marine asset; the preservation purpose of a very large area, or its desirability, might be contested. Equally, a small HMPA might be contested as not being adequate for the purpose of preserving the asset. The Scottish Government has indicated that ‘for the most part we envisage that Historic MPAs would be small in size – focussed around specific historic assets ... Scotland’s eight designated wrecks have circular protected areas of between 50 and 250m in radius’ (Richard Lochhead, Cabinet Secretary for Rural Affairs and the Environment, 10 January 2010).

- 2.5.12. It is worth noting that there appear to be no legal or policy constraints on the size of MCOs, and that the test upon them is of ‘furthering the stated preservation objectives for a Historic MPA’ (s. 85(1)(c)), which might be regarded as relatively permissive.
- 2.5.13. The legislation’s flexibility with respect to the size of both HMPAs and MCOs and the relationship between them does present a range of options in seeking to achieve effective and practical protection. For example, it may be permissible for a single HMPA to refer to multiple bounded areas in a locality, i.e. for one HMPA to cover several assets each with an asset-specific boundary. This would have the effect of simplifying asset protection both in administrative terms and in communication with stakeholders. Alternatively, there may be merit in introducing a single extensive HMPA covering multiple assets, with protection measures targeted through the use of asset-specific MCOs; or to have tiered HMPAs, with an extensive HMPA encompassing targeted asset-specific HMPAs (with different MCOs tailored to the extensive HMPA and specific HMPAs). A further possibility, whereby asset-specific HMPAs are encompassed within an extensive MCO, is discussed below.
- 2.5.14. Although flexible in terms of extents, HMPAs and MCOs will still need to satisfy the legal tests discussed above. Where HMPAs (or MCOs) that encompass multiple assets are being considered, particular care may be required in addressing the contextual characteristics of the assets, with reference to guidance on cultural significance in Appendix I of *Scottish Historic Environment Policy* (Historic Scotland July 2009).
- 2.5.15. It is recommended that both the statutory criteria for HMPAs and the policies anticipated in their application are elaborated, with illustrative examples / possible scenarios, in developing guidance on HMPAs.

Offences

- 2.5.16. It is an offence in a HMPA (‘the protected area’) to (s. 96(1)):
- Intentionally or recklessly
 - Do a prohibited act
 - And the act has significantly hindered, or may significantly hinder, the stated preservation objectives for the protected area.
- 2.5.17. A person does a prohibited act if they (s. 96(2)):
- Carry out works or activities which (or which are likely to) either a) damage or interfere with a marine historic asset, or b) have a significant impact on the protected area.
 - Removes, alters or disturbs a marine historic asset.

- 2.5.18. Offences with respect to marine historic assets / MHPAs have been summarised in Appendix III including, for comparison, offences with respect to the Protection of Wrecks Act 1973 and the Ancient Monuments and Archaeological Areas Act 1979.

Defences

- 2.5.19. It is not an offence if (s. 96(3)):
- The act was the incidental result of a lawful operation, and
 - The person who carried out the lawful operation took reasonable precautions and did not foresee, or could not foresee, that there would be an incidental result, and
 - The person took such steps as were reasonably practicable in the circumstances to minimise the (potential) hindrance to the preservation objectives.
- 2.5.20. A person is also not guilty of an offence if the act (s. 97(1)):
- Was an exercise by a public authority of functions in accordance with s. 82(2).
 - Was expressly authorised by a public authority (though this defence may be disapplied by an MCO – s. 85(4)).
 - Was done in accordance with a s. 92(1) permit or s. 92(3) authorisation.
 - Was necessary in the interests of national security, of the prevention or detection of crime, or for securing public health.
- 2.5.21. It is a defence for someone charged with an offence relating to marine historic assets to show that (s. 97(2)):
- The act was done for the purposes of and in the course of sea fishing, or in connection with such an act, and
 - The effect of the act could not have reasonably been avoided.
- 2.5.22. It should be noted that s. 97(3) provides that an order can be made to amend s. 97(2) to remove or restrict the application of the sea fishing defence.
- 2.5.23. It is also a defence for someone charged to prove that the act was carried out for the purpose of saving life or securing the safety of a vessel, aircraft or marine installation, so long as the person took reasonable steps to inform Scottish Ministers about the act, its locality and circumstances, and any substances or objects concerned. The court will decide if it is satisfied that the act was necessary and reasonable (s. 98).

2.6. Preservation Objectives

- 2.6.1. The purpose of designating a Historic MPA is to preserve a marine historic asset. Beyond this, the designation order must state the preservation objectives for a) the asset, and b) the area.
- 2.6.2. The stated preservation objectives are a fundamental test of whether an offence has been committed to a marine historic asset (s. 96(1)(b), of whether duties on public authorities are being complied with (s. 82(2)(a)(iii) etc.; s. 83(2)(c); s. 82(4)(a)(iii)), and of whether a marine conservation order is valid (s. 85(1)(c)). Consequently, establishing appropriate and effective preservation objectives is key to the satisfactory implementation of HMPA provisions.

- 2.6.3. The concept of preservation objectives appears to have arisen as a parallel to conservation objectives in respect of nature conservation designations; there is thus no direct parallel to be gained from UK archaeological regimes such as the Protection of Wrecks Act 1973 or the Ancient Monuments and Archaeological Areas Act 1979.
- 2.6.4. There is a broader literature on preservation objectives internationally and in the UK but mostly in the context of built heritage and digital archiving.
- 2.6.5. Parallels may be drawn from conservation objectives as applied to natural environment conservation objectives, as applicable to Special Areas of Conservation and Marine Conservation Zones.
- 2.6.6. However, there is merit in considering the development of preservation objectives for Historic MPAs in their own terms, as a novel exercise, drawing on a wider hinterland of policies relating to the historic environment in Scotland and the UK. It is recommended that the relation between HMPA preservation objectives and the wider hinterland of marine and historic environment policies discussed below is made clear to stakeholders and the wider public through HMPA guidance.
- 2.6.7. Although they do not go into detail about preservation objectives, Historic Scotland's provisional policies state that Scottish Ministers consider it desirable to designate HMPAs in order to help preserve Scotland's most important marine historic assets, and to celebrate and communicate their heritage value so that everyone can appreciate these assets and act responsibly (Historic Scotland December 2009 para. 3.1). This reflects a broader introduction: 'Scottish Ministers are committed to protecting and managing Scotland's rich and diverse historic environment in a sustainable way such that current and future generations can understand, appreciate and benefit from it (Historic Scotland December 2009 para. 1.1).
- 2.6.8. As well as being consistent with UK High Level Marine Objectives (HM Government 2009 – 'People appreciate the diversity of the marine environment, its seascapes, its natural and cultural heritage and its resources and act responsibly'), the approach outlined in the Provisional Policies gives effect to Scottish Ministers' overarching policies for the historic environment as set out in Scottish Historic Environment Policy (SHEP) (Historic Scotland July 2009).
- 2.6.9. SHEP sets out three key outcomes for Scotland's historic environment, as follows:
- Key Outcome 1: that the historic environment is cared for, protected and enhanced for the benefit of our own and future generations.
- Key Outcome 2: to secure greater economic benefits from the historic environment.
- Key Outcome 3: the people of Scotland and visitors to our country value, understand and enjoy the historic environment.
- 2.6.10. Historic Scotland's Provisional Policies note that 'given Scotland's geographical position on a nodal sea route linking northern Europe with the world, its coasts and seas have historically also been of international significance' (para. 1.6). This international significance may mean that valuing, understanding and enjoyment of Scotland's historic environment can extend to international audiences beyond the people of Scotland and visitors to Scotland.
- 2.6.11. The Key Outcomes are supported by the following Key Principles:

- a. actions taken in respect of Scotland's historic environment should secure its conservation and management for the benefit and enjoyment of present and future generations;
 - b. there should be a presumption in favour of preservation of individual historic assets and also the pattern of the wider historic environment; no historic asset should be lost or radically changed without adequate consideration of its significance and of all the means to manage and conserve it;
 - c. Scotland's historic environment should be managed in a sustainable way; recognising that it is a social, cultural, economic and environmental resource of great value;
 - d. All of the people of Scotland should be able to enjoy, appreciate, learn from and understand Scotland's historic environment, and be assisted in that through access, research, knowledge, information and education and proactive conservation investment, without compromise to cultural significance.
- 2.6.12. Historic Scotland has stated that, where practicable, Scottish Ministers would seek through beneficial stewardship to preserve a marine historic asset in situ and to ensure that the national importance of the asset is not put at risk by inadvertent or deliberate damage or destruction, or by degradation or complete loss due to natural factors (Historic Scotland December 2009 para. 4.1). Historic Scotland has further stated that where such assets cannot be saved, Historic Scotland – where at all possible – would pursue schemes whereby data may be recovered to mitigate loss and the results of this work be widely disseminated (Historic Scotland December 2009 para. 4.6a)
- 2.6.13. The three Key Outcomes may provide a framework whereby the purpose of preserving a marine historic asset and the area within a HMPA can be elaborated as preservation objectives, for example:

Purpose	Objectives for MHA and area	Beneficiaries
Preserve	Cared for Protected Enhanced	our own generations future generations
	Greater economic benefits secured	
	Valued Understood Enjoyed	the people of Scotland visitors to Scotland international audiences

- 2.6.14. In this formulation, the preservation objectives for a marine historic asset and MPA might be expressed generically as follows:

The preservation objectives for the marine historic asset and the area of the MPA designated for the purposes of preserving it are as follows:

To care for, protect and enhance the marine historic assets and the area of the MPA.

To secure greater economic benefits from beneficial stewardship of the marine historic asset and the area of the MPA.

To enable the people of Scotland, visitor to Scotland and international audiences to value, understand and enjoy the marine historic asset and the area of the MPA.

- 2.6.15. It may be worth setting out such generic HMPA preservation objectives out in guidance. Certainly, it is recommended that the relation between HMPA preservation objectives and the wider hinterland of marine and historic environment policies is made clear to stakeholders and the wider public through such guidance.
- 2.6.16. The generic objectives can be interpreted in the light of the Key Principles set out in the SHEP and Scottish Ministers' Provisional Policies to indicate what they might mean in practice in a way that can be measured. For example:

Objective	Measurable parameters	Examples
Cared for	actions will secure the conservation and management of the asset for the benefit and enjoyment of present and future generations.	Prepare management plan for each HMPA
	the national importance of the asset will not put at risk by inadvertent or deliberate damage or destruction, or by degradation or complete loss due to natural factors.	Enforcement of designation; distinctive MCO provisions for 'activities directed at' and 'activities incidental to' assets
Protected	there is a presumption in favour of preservation in situ of the individual asset	Thresholds on authorisation of intrusive activities; restriction on the application of salvage procedures;
	there is a presumption in favour of preservation of the pattern of the wider historic environment	coherent and consistent approach to HMPAs as a whole and in relation to other heritage assets; MCO provisions to require reporting of discoveries in vicinity of assets that may contribute to wider pattern
	the asset will not be lost or radically changed without adequate consideration of its significance and of all the means to manage and conserve it.	Requests for authorisation to be accompanied by project designs
	where the asset cannot be saved, schemes will be pursued – where at all possible – whereby data may be recovered to mitigate loss and the results of this work will be widely disseminated	'Rescue' investigations accompanied by post-fieldwork actions and publication
Enhanced	the asset will be managed in a sustainable way to facilitate understanding and enjoyment through access, research, knowledge, information and education.	See 'Understood' and 'Enjoyed' below

	the asset may be subject to proactive conservation investment where such action is sustainable and is merited by its social, cultural, economic and environmental value.	In situ stabilisation
Greater economic benefits secured	the asset will be managed in a sustainable way to recognise and realise its value as an economic resource without compromise to its cultural significance.	Heritage tourism – boat-based tours using local operators
Valued	the value of the asset as a social, cultural, economic and environmental resource will be recognised.	Valuation exercise to inform management plans
Understood	the asset will be managed to enable all the people of Scotland, visitors to Scotland and international audiences to understand and learn from it through access, information and education.	Publication appropriate to different audiences; expansion of Canmore records; learning and access programmes for schools and communities
	the asset may be subject to research (including the use of intrusive techniques) to better understand the asset and increase knowledge, taking account of the presumption in favour of preservation in situ and the requirement not to compromise its cultural significance.	Licensing of research-based investigations
Enjoyed	the asset will be managed to enable all the people of Scotland, visitors to Scotland and international audiences to enjoy and appreciate it through access, information and education.	Diver trails; recreational boating trails; guidebooks; web-based media

- 2.6.17. Interpretation of generic objectives with specific reference to the details of the marine historic asset and the area of the MPA – including its significance, wider context and vulnerability (sensitivity; exposure; risks) – is likely to form an important part of the documentation supporting the designation of each HMPA.
- 2.6.18. In addressing significance and vulnerability, it may be appropriate to adopt a source-path-receptor model to make an explicit link between features (receptors) giving rise to significance and the acts (sources) that will hinder preservation objectives. For example, ship wash is a source that – through paths whereby localised and temporary changes to hydrodynamics and sediment transport cause mobilisation and erosion of the seabed – cause exposure, loss and destabilisation of the deposits, artefacts and structures (receptors) of which an asset is comprised. Some of these paths to receptors may be shared with other sources and can be considered in common. Attention to the management of paths and receptors may be more sustainable and effective than simply seeking to exclude sources.
- 2.6.19. Where marine historic assets and the surrounding seabed are assessed as having biodiversity and/or geodiversity value, or having the potential to contribute to the MPA network, then it may be appropriate to add nature conservation objectives to the preservation objectives of the HMPA.
- 2.6.20. It is worth noting that the relation between designation and purpose/objectives appears stronger in the case of nature conservation than the marine historic environment, not least (but not only) in the requirement to delivering a network of

MPAs. Marine Scotland's Guidelines on the selection of MPAs is based on a programmatic approach to designation based on priority marine features and regional searches; in this context MPA proposals will be developed by Marine Scotland, Scottish Natural Heritage (SNH) and the Joint Nature Conservation Committee (JNCC). Provision is also made for third party proposals (Marine Scotland March 2010).

- 2.6.21. Previous practice has been for designation of marine historic assets, notably through the PWA 1973, to be proposed primarily by third parties, or at least to be proposed reactively rather than on a programmatic basis. Marine Scotland has stated that third parties will continue to be able to request to Historic Scotland that a particular asset or group of assets be considered for designation as a Historic MPA, and that Historic Scotland may also carry out its own assessments. No reference appears to have been made, however, to a more programmatic basis for designation. Rather, the indication that designations are envisaged as only increasing gradually in number referred to above (Richard Lochhead, Cabinet Secretary for Rural Affairs and the Environment, 10 January 2010), suggests a continuation of the reactive / third-party approach to designation.
- 2.6.22. The lack of a programmatic approach to the designation of Historic MPAs may be of concern because it weakens the link between designation and preservation objectives. To illustrate, the contention that an act has hindered a preservation objective with respect to a particular asset may be undermined if that preservation objective has not been applied (or at least considered) in relation to comparable assets: That is to say, the defence might be offered that the preservation objective has been hindered no more than it has been hindered on comparable assets that are not designated. Whilst not necessarily warranting a major expansion in numbers of HMPAs, it seems likely that the development of preservation objectives – on which so much enforcement will rest – will have to take into consideration overall patterning in marine historic assets and their significance.
- 2.6.23. Given the possible implications for enforcement, it is recommended that further consideration should be given to adopting a programmatic approach to HMPA designation.

2.7. HMPAs: Duties on Public Authorities

Functions

- 2.7.1. Where public authorities have any function that could significantly affect a marine historic asset in a Historic MPA, the authority must exercise its functions in the manner it considers to best further the stated preservation objectives for the Historic MPA. Where it cannot further the preservation objectives, it must exercise its functions in the manner which the authority considers least hinders achievement of the objectives (s. 82). If an authority considers that the exercise of functions will significantly hinder the achievement of preservation objectives, then it must inform Scottish Ministers (Historic Scotland).
- 2.7.2. It is presumed here that Scottish Ministers / Historic Scotland are 'public authorities' whose decisions in respect of issuing permits and directions are subject to the duties upon them with respect to HMPAs under ss. 82-83. There appear to be no condition that authorisations can only be issued to persons that appear competent etc. comparable to PWA 1973 s. 1(5).

Acts and Omissions

- 2.7.3. If a public authority intends to do an act that risks hindering objectives, the authority must notify Scottish Ministers (Historic Scotland) 28 days in advance, unless they have already been given advice or guidance about the specific act by Scottish Ministers (Historic Scotland). The 28 day period may be shortened or dispensed with if the authority thinks there is an urgent need.
- 2.7.4. Public authorities must inform Scottish Ministers (Historic Scotland) if it considers that there has been an act or omission that may significantly hinder the preservation objectives of a HMPA.

Regard to Advice and Guidance

- 2.7.5. Public authorities are required to 'have regard' to advice or guidance given by Scottish Ministers (Historic Scotland).

Decisions

- 2.7.6. Where public authorities determine applications for the authorisation of acts that are capable of significantly affecting a marine historic asset in a Historic MPA, the public authority must notify Scottish Ministers (Historic Scotland) 28 days in advance if they believe there is or may be a significant risk that the act will hinder the preservation objectives (s. 83). The 28 day period may be shortened or dispensed with if the authority thinks there is an urgent need (s. 83(3)).
- 2.7.7. Authorisation of the act must not be granted by the public body unless they have been satisfied by the applicant that there is no significant risk that the act will hinder the achievement of the preservation objectives of the HMPA (s. 83(4)(a)).
- 2.7.8. Alternatively, the applicant may not be able to satisfy the authority about risking preservation objectives, but there is no other means of proceeding which would create substantially lower risk, or the benefits to the public clearly outweigh the risk of damage (s. 83(4)(b)). In such cases, the authority must grant the authorisation subject to conditions requiring detailed archaeological investigation prior to the act authorised. The authority must notify Scottish Ministers (Historic Scotland) of the proposal to grant authorisation and of the proposed conditions 28 days in advance of authorisation (s. 83(7)).

Failure to Comply

- 2.7.9. If, in the opinion of Scottish Ministers, a public authority fails to comply with its duties, the Ministers may request a written explanation from the authority, who must provide the explanation.
- 2.7.10. It should be noted that Historic Scotland, if a public authority, will have equivalent responsibilities with respect to NCMPAs and DRMPAs.
- 2.7.11. It is recommended that specific guidance is drafted for public authorities to set out their duties etc. with respect to HMPAs, in a format that is suitable for wide dissemination to staff within those authorities.

2.8. Marine Conservation Orders

Purpose and Extent

- 2.8.1. Scottish Ministers may make marine conservation orders (MCOs) to further the stated preservation objectives of a HMPA (s. 85). An order can apply to any area of Scotland (i.e. within 12 nm) and is not, it seems, limited to the area of an MPA.
- 2.8.2. The area protected by an MCO is referred to as 'the protected area' (s. 86(1)(a)). It should be noted that in s. 96 the 'protected area' refers to the Historic MPA; there is therefore scope for confusion between references to the HMPA as the protected area and the geographical extent of an MCO being the protected area, especially as the HMPA and MCO may have different boundaries.
- 2.8.3. It is worth recalling that in the case of Nature Conservation MPAs, MCOs are clearly regarded as only one of the mechanisms available for managing MPAs, alongside other remedies including voluntary measures (Richard Lochhead, Cabinet Secretary for Rural Affairs and the Environment, 10 January 2010). Whilst a greater role has been indicated for HMPA MCOs, the scope for recourse to other measures should be kept in mind in the course of the following discussion.

Procedure

- 2.8.4. Before making a MCO, Scottish Ministers must (s. 87):
- send a copy of the draft MCO to any people they consider likely to be interested or affected by it;
 - place a copy of the draft somewhere where it can be inspected;
 - provide a copy to anyone who requests it;
 - send a copy to the relevant planning authority if it applies to any land;
 - publish notice of their intention to make an MCO, stating the time within which representations (see s. 90) have to be made.
- 2.8.5. There is provision under s. 88 for making urgent MCOs for up to 12 months, and for 'urgent continuation orders' to extend urgent MCOs for up to a further 12 months.

Scope

- 2.8.6. MCOs may be made subject to specific exemptions. They may make different provision for different cases, including different parts of the MPA, different times of year and different means or methods of carrying out an activity.
- 2.8.7. There is no definitive account of the scope of MCOs. Rather, s. 86 sets out example provisions that include – but presumably are not limited to – prohibiting, restricting or regulating the following within the area of the MCO:
- Entry into, movement, activity or works (including use of equipment; surveying or exploring, fixing or attaching anything to the seabed or seashore) by a person, animal, vessel or vehicle.
 - Anchoring, including fixing of moorings or anchors to the seabed
 - Killing, taking, destruction, molestation or disturbance of animals or plants
 - Removal of all or part of any thing (including in particular all or part of a marine historic asset)

- Depositing by any means of anything
 - Doing anything which in the opinion of Scottish Ministers may interfere with or damage the seabed, damage or disturb any object (including a marine historic asset), or otherwise cause harm
- 2.8.8. MCOs may also restrict the speed of any vessel or vehicle both within the HMPA or in any specified area outside the HMPA if vessel or vehicle movement might hinder the stated preservation objectives of the HMPA.
- 2.8.9. MCOs can also prohibit or restrict entry into, or any movement or other activity on any part of the seashore adjoining the MPA.
- 2.8.10. It is worth recalling that some acts are already prohibited under s. 96 by virtue of designation of a HMPA and so need not also be included in a MCO, namely:
- Intentionally or recklessly a) carrying out works or activities that damage or interfere with a marine historic asset or have a significant impact on the area; or b) removing, altering or disturbing a marine historic asset, where the works, activities, removal etc. significantly hinder the achievement of the stated preservation objectives for the HMPA.
- 2.8.11. The potential scope of provisions under a MCO has been summarised in Appendix III, including offences with respect to marine historic assets / MHPAs and, for comparison, offences with respect to the Protection of Wrecks Act 1973 and the Ancient Monuments and Archaeological Areas Act 1979.

Authorisation and Permits

- 2.8.12. Under s. 92, MCOs may provide for Scottish Ministers to issue permits authorising anything that would otherwise be unlawful under the MCO. Permits may be made subject to appropriate conditions.
- 2.8.13. With particular reference to HMPAs, MCOs may provide for Scottish Ministers:
- to issue directions to any person or category of person to authorise any specified thing that would otherwise be unlawful;
 - to issue general directions to authorise any specified thing that would otherwise be unlawful.
- 2.8.14. Conditions can be attached to directions.
- 2.8.15. Authorisation provisions may set out the procedures to apply in relation to making and determining applications for permits and directions.
- 2.8.16. Under s. 93, MCOs may provide for Scottish Ministers, by direction, to delegate the issuing of permits. With particular reference to HMPAs, Scottish Ministers may delegate the issuing of directions or authorisations.

Offences with respect to MCOs

- 2.8.17. It is an offence to contravene or fail to comply with an MCO (and, thereby, with a permit or direction).

Discussion

- 2.8.18. Historic Scotland has stated that MCOs are considered likely to be necessary on Historic MPAs as follows (Historic Scotland March 2009, para. 4.2):
- To allow for the satisfactory management of activities directed at marine historic assets (e.g. survey, surface recovery of artefacts, and excavation;
 - On occasion, to manage access (e.g. following the discovery of a historic shipwreck that is considered particularly vulnerable).
- 2.8.19. It is worth bearing in mind that designation of a HMPA is, by itself, relatively permissive, being limited principally to intentionally or recklessly damaging or removing a MHPA where the act significantly hinders the preservation objective. MCOs can be used to allow such acts, and also to add considerably to the range of acts that are restricted.
- 2.8.20. Activities directed at a marine historic asset (survey; surface recovery; excavation) may not be prevented by designation as such, especially if it is argued that they are contributing to – rather than hindering – the stated preservation objectives.
- 2.8.21. A wide range of careful activities incidental to marine historic assets that have, nonetheless, unintentional impacts on MHPAs would also be permissible, including many forms of access.
- 2.8.22. Adopting the model of licensing as implemented with respect to the PWA 1973 might see MCOs being introduced for each MPA to restrict activities directed at the asset except where authorised by a permit to which conditions are attached.
- 2.8.23. MCOs might also be introduced to restrict access except where authorised by permit, or by general direction to allow a ‘specified thing’ that would otherwise be unlawful.
- 2.8.24. It should be noted that the procedures to apply with respect to authorisations (application; criteria; duration; review; renewal etc.) can be set out in the authorisation itself.
- 2.8.25. Further, the power to authorise may be delegated to another person or organisation.
- 2.8.26. Whilst the regime for MCOs and authorisations appears to be very flexible, its great flexibility could result in it becoming unwieldy and confusing for the users of the marine environment to which it applies. It is recommended that a strategic approach is adopted to the implementation of MCOs. The approach should distinguish between activities directed at marine historic assets and activities that are incidental to such assets.
- 2.8.27. One approach might be to prepare a single MCO for a HMPA, setting out all the activities that are restricted, what activities can be permitted, and the procedures that are to apply with respect to authorisation. In light of the permissiveness of designation itself, it is likely that each HMPA will need an MCO to afford some supplementary protection and allow activities that are otherwise proscribed. Consequently, these MCOs are likely to be numerous, repetitive, long and complex, and to introduce inconsistencies from HMPA to HMPA.
- 2.8.28. Noting that MCOs can apply to any area of Scotland, not just to the area of a (specific) MPA, then it may be worth considering the use of general, topic-based

MCOs applicable to several or all HMPAs. MCOs must further the preservation objectives for a HMPA, but if – as discussed – preservation objectives have a generic component linked to the SHEP, then this requirement could be satisfied across multiple MPAs.

- 2.8.29. MCOs of general application might be most helpful to users in setting out common restrictions, requirements or procedures. Where these need to be modified in the light of experience, only the general MCO need be revised rather than the MCOs for each HMPA. By way of examples:
- Topic-based MCOs might be used to enable licensing of activities that are restricted generically by HMPA designation, such as removing or disturbing assets. Specifically, an MCO could put in place the procedures and conditions that are to apply to, for example, the handling, recording and storage of artefacts, structures, palaeo-environmental samples, dendrochronological samples etc. in circumstances where their removal is authorised.
 - A generic MCO might be introduced to restrict the application of salvage procedures to HMPAs.
 - A generic MCO could be put in place to require that copies of specified forms of geophysical data are provided to Historic Scotland if they are acquired in the course of surveys in the vicinity of HMPAs, but without restricting or requiring the individual authorisation of such surveys.
 - An MCO might place controls on searching for assets in the vicinity of HMPAs.
 - A general MCO might be introduced to oblige the reporting of discoveries and passing-on of information to Historic Scotland pertaining to HMPAs, applicable not only to individuals but also to public bodies such as the Receiver of Wreck.
- 2.8.30. Where HMPAs have specific needs, then additional specific MCOs could be implemented. For example, a specific MCO could be used to enable access by recreational divers, as a class of person, to a series of named HMPAs, whilst the remaining HMPAs are subject to a general restriction. Equally, a visitor scheme administered by a person to whom authorisation has been delegated could be instituted through an MCO specific to a single HMPA. However, in contrast to a system based on one-HMPA-one-MCO, the MCO could focus entirely on the application of the visitors scheme, rather than having to detail every other restriction and authorisation that might feasibly apply.
- 2.8.31. The possibility of multiple but tightly-focussed MCOs offers particular benefits in zoning, noting that MCOs can apply to any area (i.e. not the whole of a HMPA) and to different parts of the HMPA. MCOs can also refer to different times of the year, enabling temporal zoning in respect of seasonal activities. Spatial and temporal flexibility could facilitate HMPAs that are relatively extensive, where the only prohibition is on intentional/reckless damage/removal but to which preservation objectives apply and public authorities have duties. Tighter restrictions could then be applied to very limited areas within the HMPA where vulnerable features are known to lie.
- 2.8.32. An alternative might be to have spatially-restricted HMPAs tightly focussed on known assets but set within a more extensive MCO, particularly if other historical material is suspected to lie in the area but is not yet known. The extensive MCO could set out basic requirements in respect of such material if it comes to light, such as reporting it to Historic Scotland, though there would have to be a direct link

between the preservation objective of the tightly focussed HMPA and the MCO that applies more widely.

- 2.8.33. It should be recalled that both the area of a HMPA and the area of a MCO are referred to as the 'protected area' in the 2010 Act even though, as discussed above, they may not refer to the same area. Considerable attention will need to be paid to ensuring that the extent and implications of different protected areas are conveyed clearly and accurately to the various audiences that they will affect.
- 2.8.34. More generally, the communication of information relating to HMPAs and MCOs to varied audiences will require special care. Whether opting for one-HMPA-one-MCO or for multiple specific MCOs, the overall result may be confusing to the individual sea-user intending to carry out one particular activity and wanting to know if, when, where and under what conditions they might carry it out. Clear concise information will need to be made available to a variety of users in a variety of formats, including on the web, as leaflets and posters, and as signboards.
- 2.8.35. Taking these points into account, it is recommended that the strategy adopted towards MCOs is considered in conjunction with the strategy to be adopted towards HMPAs themselves. It is further recommended that consideration be given to trialling different HMPA/MCO combinations, reflecting different circumstances, in order to provide practical feedback on the new mechanisms. It is recommended that particular attention is drawn to the distinction between HMPA and MCO areas, especially as they are both referred to as 'protected areas' in the 2010 Act. Finally, it is recommended that a suite of information products and awareness-raising materials is developed, encompassing different formats and audiences, and conveying in a comprehensive manner the restrictions and conditions that apply to each individual HMPA by virtue of the Act itself, any MCOs that apply, and any other restrictions that apply (e.g. those arising from ownership of the site or seabed), and indicating which activities are not restricted.

2.9. Reports to Parliament

- 2.9.1. Scottish Ministers must provide a report to Parliament every 6 years starting before 31 December 2012. The report must set out the number of HMPAs in designation orders in the period. For each HMPA the report must set out a summary of the things for which s. 92(1) permits and s. 92(3) authorisations have been sought.

2.10. Network

- 2.10.1. Nature Conservation MPAs must be designated to contribute to the objective of forming a network, together with MCZs and relevant conservation sites in the UK marine area (s. 79). Scottish Ministers have to prepare a statement setting out the principles relating to the achievement of the objective, keep the statement under review and revise it if appropriate. The conditions that apply to the network are that:
- The network contributes to the conservation or improvement of the marine environment of the UK marine area.
 - The features protected by the sites in the network have to represent the range of features present in the UK marine area. 'Features' are: marine flora or flora; marine habitats or types of habitats; or features of geological or geomorphological interest.
 - The conservation of a feature may require designation of more than one site.

- 2.10.2. Before designating a NCMPA, Scottish Ministers must have regard to the extent to which the MPA will contribute to the network (s. 68(4)).
- 2.10.3. Although there is no requirement for Historic MPAs to contribute to the network, Scottish Ministers have stated that marine historic assets and the seabed that surround them can sometimes be of value from the perspective of biodiversity and geodiversity, and that Scottish Ministers consider that Historic MPAs have the potential to contribute to biodiversity or geodiversity policy aims (*Provisional Policies*, December 2009, para. 3.3).

2.11. Marine Management Schemes

- 2.11.1. There is provision in s. 99-102 for authorities to establish marine management schemes for NCMPAs, DRMPAs and European marine sites connected with NCMPAs or DRMPAs. There is no provision for marine management schemes for HMPAs.

2.12. Summary of Recommendations

- 2.12.1. In this section, the following recommendations have been suggested:
- distinctive policies towards Historic MPAs relative to the policies proposed for Nature Conservation MPAs should be underlined.
 - the relation between MPAs and the historic environment in Scottish offshore waters (beyond 12 nm) should be explored.
 - the role of Scottish Ministers and Historic Scotland in giving advice and guidance should be made clear to stakeholders in the marine and heritage spheres, and amongst the wider public.
 - the procedures for making, amending and revoking designation orders should be made clear, including the scope and details of consultation procedures and opportunities for representation.
 - the anticipated scope of the potential application of urgent designation should be indicated to stakeholders, using possible scenarios for urgent designation by way of illustration.
 - both the statutory criteria for HMPAs and the policies anticipated in their application should be elaborated, with illustrative examples / possible scenarios.
 - the relation between HMPA preservation objectives and the wider hinterland of marine and historic environment policies should be made clear to stakeholders and the wider public.
 - further consideration should be given to adopting a programmatic approach to HMPA designation.
 - a strategic approach should be adopted to the implementation of MCOs. The approach should distinguish between activities directed at marine historic assets and activities that are incidental to such assets.
 - the strategy adopted towards MCOs should be considered in conjunction with the strategy to be adopted towards HMPAs themselves.
 - consideration should be given to trialling different HMPA/MCO combinations, reflecting different circumstances, in order to provide practical feedback on the new mechanisms.

- particular attention should be drawn to the distinction between HMPA and MCO areas, especially as they are both referred to as 'protected areas' in the 2010 Act.
- a suite of information products and awareness-raising materials should be developed, encompassing different formats and audiences, and conveying in a comprehensive manner the restrictions and conditions that apply to each individual HMPA, and indicating which activities are not restricted.

3. EXISTING DESIGNATED SITE INFORMATION

3.1. Methods

Available Data

- 3.1.1. Digital images were sourced through the Wessex Archaeological PWA archive and supplied to Claire Dalgleish for review and assessment.

Site Designation Information

- 3.1.2. Statutory Instrument numbers, positions and extents were obtained from Historic Scotland's site summaries from 2008.

GIS Data

- 3.1.3. Illustrative site plans, geophysical images, topographic plans, diver tracking positions and hydrographical charts held by Wessex Archaeology have been used where appropriate.
- 3.1.4. The Salvage Sites in Scapa Flow have been positioned on the basis of information provided in the ScapaMap 2006 report.

Background Information

- 3.1.5. Brief outlines of vessel construction and historical significance have been prepared on the basis of published material.
- 3.1.6. A breakdown of chronological investigation and research events has been prepared on the basis of information provided by Historic Scotland, on Wessex Archaeology reports and on the open minutes of the Advisory Committee on Historic Wreck Sites.

Socio-Economic Activities

- 3.1.7. A broad list of socio-economic activities that might be present in the vicinity of existing designated historic assets has been prepared. The list draws upon, and adds to, the list of operations identified in SAC documentation about activities that may cause deterioration. Whilst possible negative interactions between operations and designated assets might occur, in preparing this list we are also mindful of the (negative) implications that designation might have for an established or anticipated activity. Further, there may be positive interactions between operations and designated assets, where the recognition of a historic dimension might boost socio-economic activity.
- 3.1.8. The list – ordered alphabetically – is as follows, and has been used as a checklist for collating information about socio-economic activities in Appendices A-I:

Socio-economic activity	Includes
Aquaculture	Finfish Farming Shellfish Farming
Developed Coasts	Civil Engineering
Discharges / Waste Disposal	Discharge of Commercial Effluent Discharge of Sewage

Energy Generation and Transmission	Offshore wind Wave Tidal Export Cables Nuclear Interconnectors Carbon Capture and Storage (CCS)
Fisheries	Hydraulic Fishing Mobile gear: Dredging Mobile gear: Trawling Static gear: Creel / Pot fishing Static gear: Netting
Flood and Coast Protection	Beach protection Shoreline defences Drainage
Gathering / Harvesting	Bait gathering Diver collection of shell fish Intertidal collection of seaweed Intertidal collection of shellfish Sea angling
Marine Traffic	Ports and harbours Navigation infrastructure (incl. channel dredging) Ship/boat building, repair and maintenance Ferry routes Shipping routes
Military Activity	Ranges Exercise Areas
Mineral Extraction	Extraction of beach material Aggregate dredging
Oil and Gas	Platforms Subsea structures Pipelines
Recreation and Access	Boat anchorages Boat moorings Hards and slipways Marinas Charter / recreational vessels Recreational diving Watersports Coastal footpaths Coastal tourism Wildlife tourism
Scientific Research	Geological Ecological Archaeological
Telecommunications	Cables
Undeveloped Coasts	Forestry Operations Agriculture

- 3.1.9. Information concerning socio-economic activities in the regional locations of the designated sites has been prepared using a number of websites and published material, including:

Ardnamurchan Estate	http://www.west-highlands.co.uk/ardnamurchan.php
Argyle and Bute Council	http://www.argyll-bute.gov.uk
Burntisland Heritage Trust	http://www.burntisland.net/heritage-trust.htm
Historic Scotland	http://www.historic-scotland.gov.uk
Lochaline Dive Centre	www.lochalinedivecentre.co.uk
Scottish National Heritage	http://www.snh.org.uk
Scapamap	http://www.scapamap.org
Scotland's Places	http://www.scotlandsplaces.gov.uk
Shetland	http://www.vocshipwrecks.nl/out_voyages4/kennemerland.html and http://photos.shetland-museum.org.uk
The Sound of Mull Archaeological Project (SOMAP)	www.lochalinedivecentre.co.uk/somap.html

3.2. Results

- 3.2.1. The results of the data collation, review and summary on each existing designated historic site is presented in Appendices A-I.

3.3. Limitations of Data Collation

Existing Data

- 3.3.1. The quantity and quality of data available differed between wreck sites. This is in many ways due to the manner in which the sites were investigated and the period in which this research occurred. Correspondence with stakeholders and past licensee holders confirms that further documentation may be made available on sites such as the Kennemerland and Wrangels Palais. This archive material could be incorporated into assessment given appropriate time and with the support of (former) licensees.

Availability of data applicable for the project GIS

- 3.3.2. The project GIS illustrates the gaps in mapped material on all the sites. The extent of data available for the GIS is indicated in Appendix V:

4. BIODIVERSITY

4.1. Outline of Approach

4.1.1. The intention of the biodiversity element of the project was to collate, review and summarise relevant baseline data/information relating to the biodiversity of existing designated historic sites. The Project Outline noted that data relating to the area immediately beyond the designated area could be used in support of the review of data for the historic asset and protected area. Provision was also made to highlight strengths and weaknesses within the process.

4.1.2. The approach can be summarised as follows:

Collate	Determine what data have been collected from within each Designated Area. Where this data are lacking establish what exists for the seabed immediately outside Designated Area
Audit	Establish: <ul style="list-style-type: none"> • Format • Current archive location and availability Review in the context of: <ul style="list-style-type: none"> • Relevance (what items illustrate habitats and species?) • Quality (what EUNIS level can be identified from the data?)
Assess Biodiversity	Where data allow, summarise biodiversity (habitats) inside and immediately outside Designated Area Assess potential nature conservation interest. Include extents of potential protected areas where possible and proximity to current marine conservation orders

4.2. Methods

Data Collation

4.2.1. Information was sought through stakeholder consultation and searching online resources (web sites and nature conservation databases). Stakeholders included:

- Organisations involved in marine archaeological monitoring and conservation (such as Historic Scotland; local archaeological societies, local shipwreck/heritage centres and voluntary organisations);
- Organisations involved in marine ecological monitoring and conservation (such as SNH, voluntary organisations);
- General scientific community (including environmental consultancies, academic institutions);
- Other sea-users (such as local dive charter companies);
- Wreck licensees/adopters/nominated archaeologists;

4.2.2. A full list of the organisations and individuals contacted for each Designated Area together with their contact details is provided in Table Appendix I.

- 4.2.3. Some of the organisations contacted deposit their data within the National Biodiversity Network (NBN) Gateway (http://data.nbn.org.uk/index_homepage/index.jsp). This was queried to source all available seabed data from both within each Designated Area and the seabed immediately surrounding them. Data were queried by location (grid squares), and also by site (e.g. for existing nature conservation MPAs and their associated site condition monitoring data).

Designated Area	NBN Grid
HMS Dartmouth	NM73 & NM74
Duart Point	NM73
Burntisland	NT18, NT27, NT28
HMS Campania	NT18, NT27, NT28
Wrangels Palais	HU66, HU67, HU77
Kennermerland	HU66, HU67, HU77
Kinlochbervie	NC14, NC15
Mingary Castle	NM46, NM56
Scapa Flow wrecks	ND39, HY20, HY30

- 4.2.4. All datasets relevant to marine benthic habitats and species were included within the searches.
- 4.2.5. Online resources consulted for habitat and species data associated with each wreck site included:

Lochaline Dive Centre	www.lochalinedivecentre.co.uk
The Dive Bunker	http://www.divebunker.co.uk/divesites.html
*Orkney Dive Boat Operator's Association	www.odboa.co.uk/text/vocz.htm
*Diver Net	www.divernet.com/Travel_Features/travel_features_uk/157839/big_vis_big_dives.html
Seasearch	http://seasearch.wisshost.net/achievements.htm
The Nautical Archaeology Society (NAS)	www.nauticalarchaeologysociety.org/projects/somapp.php
*The Marine Conservation Society (MCS)	www.mcsuk.org/ www.lancashiremcs.org.uk/survey/lochaline_wall.html
Scottish Natural Heritage (SNH)	www.snh.org.uk
Historic Scotland	www.historic-scotland.gov.uk/index/heritage/wrecksites/scottlands-historic-wrecks.htm
The National Biodiversity Network (NBN) Gateway	http://data.nbn.org.uk/
The Data Archive for Seabed Species and Habitats (DASSH)	www.dassh.ac.uk
*Argyll and Bute Council	www.argyllmarinesac.org
The Scottish Sustainable Marine Environment Initiative (SSMEI) Sound of Mull Project	http://www.argyll-bute.gov.uk/content/planning/developmentprojects/marineandcoastaldevunit/ssmeihp/ (Follow link: information resources)

*Shetland Biological Records Centre (SBRC)	www.nature-shetland.co.uk/brc/index.htm
The Scottish Sustainable Marine Environment Initiative (SSMEI): A Marine Spatial Plan for the Shetland Islands	www.nafc.ac.uk/SSMEI.aspx
*Burntisland Heritage Trust	www.burntisland.net/heritage-trust.htm
*Forth Estuary Forum	www.forthestuaryforum.co.uk
The Sound of Mull Archaeological Project (SOMAP)	www.lochalinedivecentre.co.uk/somap.html
Scapa Flow Maritime Archaeological Project (ScapaMAP)	www.scapamap.org/
*Shetland Museum and Archives	http://photos.shetland-museum.org.uk/index.php
Broadscale habitat maps	
The Joint Nature Conservation Society (JNCC)	www.jncc.gov.uk/pdf/Offshore_PotAnnIHab_May09.pdf www.jncc.gov.uk/ukseamap/
The Department of Energy and Climate Change (DECC) Strategic Environmental Assessment	www.offshore-sea.org.uk/site/scripts/sea_archive.php
British Geological Society (BGS)	www.bgs.ac.uk/products/digitalmaps/digsbs250.html
The UK MPA Centre	www.ukmpas.org/index.php
Seazone	www.seazone.com/dataHydroSpatial.php

* no information/data relevant to habitats and species within Designated Area or immediately surrounding seabed.

- 4.2.6. Where sites were found to contain relevant information this is listed in detail within Table 1.2 to 1.8.

Audit and Review

- 4.2.7. For existing data, Tables 1.2 to 1.8 summarise the format, current archive location, availability for review, relevance to identifying habitats and species, for each wreck site. This is discussed below.
- 4.2.8. Relevance to the biodiversity assessment was assessed by indicating which level of the EUNIS marine habitats classification could be established from the data.
- 4.2.9. The EUNIS Marine habitat classification hierarchy is as follows (using example LS.LSA.MoSa.AmSco.Eur):

Level 2	Level 3	Level 4	Level 5	Level 6
(broad habitat type)	(habitat complexes)	(biotope complexes)	(biotopes)	(sub-biotopes)
littoral sediment	littoral sand	mobile sand	Amphipods and Scolelepis	Eurydice sub-biotope
LS	LSA	MoSa	AmSco spp.	Eur

- 4.2.10. Wessex Archaeology produced reports for archaeological surveys carried out in relation to the Protection of Wrecks Act (1973) and hold associated data (video, stills, sidescan sonar). Relevant data items from each of these studies, their format, current location, availability and relevance are listed within Tables 1.2, 1.3, 1.4, 1.5 and 1.7. All these data were made available for review.
- 4.2.11. The Archaeological Dive Unit (ADU), University of St Andrews have also carried out many of archaeological site investigations for the Designated Areas concerned within the current project (see casework histories for details). The ADU video archive now resides with the Royal Commission on Ancient and Historical Monuments of Scotland (RCAHMS), Edinburgh, an inventory for which is presented within Appendix II. The whereabouts of this archive only came to light midway through the current project and as a result none of these data were available for review within the limited timeframe available. Items with potential relevance for each Designated Area are summarised in Tables 1.2 to 1.7 for future reference and consideration. It is recommended that the ADU video archive is considered in greater detail to establish how it might best be used to contribute to the assessment of biodiversity.
- 4.2.12. The ScapaMap Project included the acquisition of multibeam echosounder (MBES) data, sidescan sonar (SSS) imagery, video and stills from each of the Designated Areas of interest within Scapa Flow that may be of use in the identifying the habitat and species associated with these Designated Areas. The video, stills and sidescan data archive now reside with Sula Diving in Stromness, Orkney. Due to the large volume of data within the ScapaMap archives, lack of immediately available archive inventories, and lack of available resources within Sula Diving to collate such an inventory in the short timescale available within the current study, only a few examples of the video acquired for mosaicing purposes could be made available for review. It is recommended that the possible contribution of ScapaMap data to the assessment of biodiversity be considered in further detail.
- 4.2.13. Relevant data items from ScapaMap, their format, current location, availability and relevance are listed within Table 1.8.
- 4.2.14. The Sound of Mull Archaeological Project (SOMAP) aims to undertake surveys of selected shipwrecks for the purposes of archaeological research, and to enable future monitoring of the condition of these wrecks. This project is based at Lochaline Dive Centre, which is also a regional training centre for the Nautical Archaeology Society (NAS) and a current licensee for both the HMS Dartmouth and Duart Point sites. Attempts were made to source data acquired in relation to SOMAP and general licensee diving activity from Lochaline Dive Centre which may be of use in identifying the habitats and species associated with these wreck sites. No response had been received at time of writing.
- 4.2.15. Limited information was available from the SOMAP, Lochaline Dive Centre and NAS web pages. Items of potential relevance from these sources are summarised in Tables 1.2 (HMS Dartmouth) and 1.3 (Duart Point).

- 4.2.16. The website for the Scottish Sustainable Marine Environment Initiative (SSMEI) Sound of Mull Project provides a regional synopsis of seabed habitats and species of conservation importance (Tables 1.2, 1.3 and 1.7). These were available online for review.
- 4.2.17. The Dive Bunker Dive Centre actively dives under license on the Burntisland and HMS Campania wreck sites in the Firth of Forth and has acquired stills images from both sites. Contact was made with Mark Blyth (owner, licensee) to request if copies of these stills could be provided to Wessex Archaeology for review within the current project. A positive response was received, with Mark agreeing to provide all available images, but no stills had yet been received at time of writing (see Table 1.4).
- 4.2.18. Attempts were also made to contact various maritime archaeological experts and former licensees as potential sources of data illustrating habitats and species in and around the Designated Areas (Table 1.1). Some of these individuals were difficult to track down and, given the amount of time elapsed between the current project and their diving activities on the sites much of the information has been lost. Where data/information does exist this was not available to review owing to the short time scale of this project and remains with the individuals. Details of potentially relevant items are listed within Tables 1.2 to 1.8 for each Designated Area for future consideration.
- 4.2.19. The Scottish Sustainable Marine Environment Initiative (SSMEI): A Marine Spatial Plan for the Shetland Islands provided a regional synopsis of seabed habitats and species of conservation importance (Table 1.5). These were available online for review and as a result Envision Mapping Ltd were contacted pertaining to data from habitat mapping surveys carried out around the Shetland wreck sites in 2007. No response had been received at time of writing.
- 4.2.20. Seasearch were contacted to enquire about any survey data they might have in relation to the wreck sites of interest. All Seasearch survey data have, and continue to be submitted to the NBN Gateway and is available within this resource however, it was confirmed that no surveys had been carried out in relation to the wreck sites of interest.
- 4.2.21. Data sources for which results were returned from the NBN Gateway grid searches are:
- Marine Nature Conservation Review (MNCR) and Associated Benthic Marine Data held and managed by JNCC and SNH (NBN code 190, 173);
 - SeaSearch Marine Surveys (194);
 - DASSH Data Archive Centre Academic Surveys (525);
 - Volunteer sightings data held by DASSH (526);
 - Seaweed data for Great Britain and Ireland (350);
 - Mollusc (Marine) Data for Great Britain and Ireland (321); and
 - MarLin Survey Data collected by volunteers (189).
- 4.2.22. Data were sorted by grid reference, site name and start date, and the locations for all relevant survey events plotted to assess their proximity to the respective Designated Areas within the project GIS.

- 4.2.23. No attempt was made to review the NBN Gateway data due to time constraints. An indication of the number of NBN data points occurring within each Designated Area and those within close proximity is given in Tables 1.2 to 1.8.
- 4.2.24. It should be noted that the maximum precision of positions exported from the NBN gateway data was given as 100m. This should be considered when reviewing data points in relation to their proximity to the Designated Areas.
- 4.2.25. Broadscale habitat maps (available online either as interactive web GIS or downloadable GIS files: URLs given in online resource list above) were reviewed to determine whether these included data relative to each Designated Area. On the whole, these were found to be of little value. The resolution and scale of these maps (e.g. UKSeaMap is based on a grid of about 1 nm, and some of the underlying data are at coarser grids of 7 km or 12 km) are, on the whole, unsuitable for fine-scale comparisons (such as the relatively small scales of the Designated Areas). Rather, they are intended to give a broader regional and national perspective. In addition, much of the data are outwith the 12nm limit. However, owing to the general lack of data available for review for some sites these broadscale maps have been considered. Items of potential relevance are summarised in Tables 1.2 to 1.8.

Assessment of biodiversity

- 4.2.26. Of the data suitable for habitat and species review (Tables 1.2 to 1.8) were used as follows:
- 4.2.27. Procedural guidelines outlined in the Marine Monitoring Handbook (Davies, et al, 2001) for the analysis of video (PG3-5) and stills images (PG3-12) were broadly followed. Existing data, where available, were reviewed on a qualitative basis only, with the purpose of highlighting habitats and species of potential conservation importance.
- 4.2.28. Video was used to assess the diversity and spatial extent of habitats and broad biotope complexes occurring within each Designated Area. Substrate type was assessed as far as was possible without any groundtruthing data (e.g. particle size analysis data).
- 4.2.29. For sites where multiple tapes of video footage exist (e.g. Wessex Archaeology site investigations for HMS Dartmouth, Duart Point and Mingary Caste) a sub set was chosen for review. Although relatively large volumes of video footage exist for these three sites it is relatively limited spatially. Much of it is of the same area of seabed as dives were concentrated on small areas to investigate specific artefacts. The diver track plots were imported into the GIS and reviewed to determine which dives best covered the area. The video from these was then targeted for review.
- 4.2.30. References for example image data for each habitat have been provided. These include info on the data source, year, dive number, tape number, counter time (e.g. Wessex Archaeology (2006), DIVA 1018: 0:01:00 to 0:02:00). It should be noted that where video footage has been referenced this does not mark the start and end points of the habitat on the tape but merely example footage of the habitat being described.
- 4.2.31. Video footage was found to be of variable quality and limited in its use to assess the most conspicuous species and substrates from within each habitat to determine biotopes present.

- 4.2.32. Where still images were available from the same dive and habitat as the video these were used to provide more detailed information on species composition of each biotope and were therefore reviewed for conspicuous species.
- 4.2.33. Poor quality stills data will have resulted in many species being missed/under represented (i.e. their absence on the list means they weren't observed rather than they are absent from the biotope). Species lists given for habitats should therefore not be considered comprehensive.
- 4.2.34. Biota was identified to the highest taxonomic resolution permitted by the image quality with nomenclature following that of Howson and Picton (1997). Species were recorded on a presence/absence basis only.
- 4.2.35. Habitats were classified following the most recent marine habitat classification (Connor *et al.* 2004). The classification of biotopes occurring on artificial substrates (e.g. wrecks) is currently limited to two codes. The rock equivalent biotopes that most resembled the wreck habitats and their associated communities were therefore used where necessary.
- 4.2.36. Where insufficient data were available to classify the habitats present (e.g. assign a biotope complex or biotope code) a summary of the substrates and dominant biota was made in an attempt to enable comparison with the broad habitats listed within the draft list of priority marine features expected to drive the selection of Nature Conservation MPAs in inshore and offshore waters adjacent to Scotland provided by SNH.
- 4.2.37. Habitat extent was not assessed due to the complexity of this process and the time constraints of the current study. Habitats identified have therefore been merely listed as occurring either within or outwith the Designated Area.
- 4.2.38. For future reference, ascertaining habitat extent would be possible from all data supplied by Wessex Archaeology by time-stamping video during review and obtaining the positions for these time stamps from the diver track plots within DIVA, though this would be very time consuming. While the mechanism of deriving position data would differ in detail, this would also be possible for all data supplied by Sula Diving in relation to ScapaMap. Again, this would be very time consuming. It is recommended that further consideration be given to the costs and benefits of relating video directly to diver track plots, such as by recording time stamps.
- 4.2.39. Due to the spatial limitations of the data available the habitats listed from the review do not constitute a comprehensive inventory of habitats occurring within each Designated Area. It should be noted that others may be present and that their absence from the records are due to the limited coverage of existing data and not necessarily their true absence from the Designated Area.
- 4.2.40. Where data are limited spatially no attempt has been made to extrapolate habitats which may be expected to occur from existing data and information available (SNH, pers. comm.).

Potential Nature Conservation Interest

- 4.2.41. The following marine nature conservation legislation was consulted to assess potential conservation interest of available habitat and species data from each Designated Area:

- UK Biodiversity Action Plan (BAP) for species and habitats;
- Natura 2000 (The EC Habitats Directive: Annex I and II);
- OSPAR Priority Habitats and Species;
- BERN Convention;
- CITES;
- IUCN Red Lists; and
- Wildlife and Countryside Act 1981 (as amended in 1985).

4.2.42. Species and habitat data were also reviewed against the “draft list of priority marine features expected to drive the selection of Nature Conservation MPAs in inshore and offshore waters adjacent to Scotland” (SNH, pers. comm.).

4.3. Results

4.3.1. The results of the biodiversity review, assessment of potential nature conservation interest and recommendations for each Designated Area are presented in Appendices A-I of this report:

4.4. Limitations of the Current Biodiversity Review

Existence and Availability of Data

4.4.1. Tables 1.2 to 1.8 highlight the overall paucity of existing data, particularly for the Wrangels Palais, Kennemerland and Kinlochbervie Designated Areas. It is recommended that these sites be given priority in sourcing secondary and/or primary data relating to the assessment of biodiversity.

4.4.2. Where data were made available the table below gives an indication of whether or not the review of this adequately represented the habitats at each site.

	Does the current review adequately represent all habitats present?		Is there existing data which may be sourced for future consideration/review?
Designated Area	Inside Designated Area boundary	Immediately outside Designated Area boundary	For details see Tables 1.2 to 1.8
HMS Dartmouth	No	No	Yes
Duart Point	No	No	Yes
Burntisland	No	Partially. Lacks groundtruthing and data on associated biota.	Yes
HMS Campania	No	Partially. Lacks groundtruthing and data on associated biota.	Yes
Wrangels Palais	No	No	Yes
Kennemerland	No	No	Yes
Kinlochbervie	No	No	Yes
Mingary Castle	No	No	Yes
Scapa Flow wrecks	No	No	Yes

- 4.4.3. In addition, although many individuals and organisations contacted during the data collation stage responded positively to the project and were willing to provide any information they held, obtaining this information was not possible due to the short time scale of the current review and lack of resources to gather the data from archives/personal collections into a practical format for submission.

Quality of data/usability

- 4.4.4. The key issues relating to data quality and suitability for habitat review are highlighted below.
- 4.4.5. Data within the Designated Areas (e.g. video and stills) were acquired with aim of documenting archaeological features and is therefore limited spatially (large volumes of data often mainly limited to wreck artefacts). In addition, the field of view for video footage is often limited (attention focused on artefacts) and it is therefore difficult to get an overall view of the habitat present.
- 4.4.6. This is also true for still images and as a result these represent a very small area, too small to fully assess the habitat and associated species present. This is particularly relevant where highly variable habitats are encountered (e.g. mixed sediments, habitat mosaics, etc.).
- 4.4.7. All of the video data collected by Wessex Archaeology is recorded on a camera mounted on the diver's hardhat. As a result it is shaky and erratic (fast moving) which makes it of limited use for the review of habitats and species.
- 4.4.8. Video and stills images are also of limited use when reviewing sedimentary habitats.
- 4.4.9. It is recommended that consideration be given to integrating recording objectives for habitat/species into objectives for Designated Area surveys, to include amending still/video acquisition methods to alleviate some of the weakness referred to above.
- 4.4.10. Site clearance (removal of algal and faunal growth to reveal archaeological artefacts) and excavation work change the nature of the substrates and the associated species present. Review of recently 'disturbed' habitats makes assessment in relation to the habitat classification difficult.
- 4.4.11. The clearance of kelp plants for example can alter the appearance of dominant biota therefore a) giving the impression of more habitats than are actually present, or b) kelp forest appearing as kelp park, or c) *S. latisima* appearing as the dominant species where upstanding *Laminaria* Sp. has been removed.
- 4.4.12. It is recommended that the status of 'site clearance' be given further consideration in the context of the restrictions on Designated Areas arising directly from the Act to establish whether such clearance requires explicit authorisation, and the degree to which the impact on biodiversity has to be assessed in advance.
- 4.4.13. Poor quality of video (shaky, erratic, too far away from substrate) and stills (out of focus, poor lighting, too far away from substrate) data will have resulted in many species being missed/under represented (i.e. their absence on the list means they weren't observed rather than they are absent from the biotope). Species lists for habitats should therefore not be considered comprehensive.

- 4.4.14. Due to the meandering nature of the much of the video (with the exception of ScapaMap) it is often difficult to orientate the habitats in relation to the site plan and topography.
- 4.4.15. Frame grabs from video were not taken to illustrate habitats within the report as these are of poor resolution and therefore of limited use. References to example video footage and/or stills have been given instead.
- 4.4.16. Geophysical data (e.g. sidescan sonar, MBES backscatter) are of limited use in assessing biodiversity value without any additional image data to groundtruth substrate type and illustrate associated biota. It does however, allow the extent of habitats to be more readily assessed than archaeological video and stills alone.
- 4.4.17. Data collected outwith Designated Areas have mainly been sourced from the NBN Gateway or generic habitat maps such as BGS sediment maps, UKSeaMap, JNCC potential offshore habitats map, and those generated as part of regional SSMEI projects.
- 4.4.18. These broadscale habitat maps are not intended for such fine scale interpretation and are therefore of limited use. Although, where Designated Area-specific data were lacking for review, the information within these broadscale maps has been considered.

4.5. Discussion and Recommendations

- 4.5.1. The following recommendations have been suggested in relation to biodiversity:
 - the ADU video archive should be considered in greater detail to establish how it might best be used to contribute to the assessment of biodiversity.
 - the possible contribution of ScapaMap data to the assessment of biodiversity should be considered in further detail.
 - the Wrangels Palais, Kennemerland and Kinlochbervie designated areas should be given priority in sourcing secondary and/or primary data relating to the assessment of biodiversity.
 - consideration should be given to integrating recording objectives for habitat/species into objectives for Designated Area surveys, to include amending still/video acquisition methods to alleviate some of the weakness referred to above.
 - the status of 'site clearance' should be given further consideration to establish whether such clearance requires explicit authorisation, and the degree to which the impact on biodiversity has to be assessed in advance.

5. GEODIVERSITY

5.1. Background

- 5.1.1. Marine Scotland (March 2010, para. 4.7) has provided guidance to the effect that in Scottish waters, Nature Conservation MPAs are considered appropriate for contributing to the protection of Geodiversity as follows:
- Areas of nationally and/or internationally important geological or geomorphological features;
 - Areas of exceptional and/or threatened geological or geomorphological features; and/or
 - Areas of geological or geomorphological features representative of key aspects of the marine geodiversity of UK waters.
- 5.1.2. Marine Scotland (March 2010, para. 6.9) has stated that the application of selection guidelines to geodiversity features will begin with a review of geodiversity features in the context of the principal 'blocks' in the GCR review of marine geodiversity interests.
- 5.1.3. With respect to detailed guidance on geological and geomorphological features, WA sought advice from SNH and was informed that such guidance was still in the process of development and was not yet available (Alistair Rennie, email 10/03/10).
- 5.1.4. A UK-wide report has been published on mapping geological and geomorphological features in the context of MPA network planning (Brooks et al, November 2009). The report includes a set of geological/geomorphological process-based feature categories and descriptions, a list of the 30 highest ranking features based on an assessment of feature importance, and an appendix listing (predominantly coastal) GCR sites. The report notes that approximately 6,500 features have been mapped in the project GIS.

5.2. Methods

- 5.2.1. Existing designated historic assets have been reviewed in relation to:
- Proximity of 'highest ranking' features identified in Brooks et al, November 2009;
 - Proximity of GCR sites listed in Brooks et al, November 2009;
 - Presence of listed process-based features.
- 5.2.2. Information on the general underlying geology, topography and seabed sediments – which are key factors for habitat – are addressed under Biodiversity.

5.3. Results

- 5.3.1. The results are included in Appendices A-I.

5.4. Discussion and Recommendations

- 5.4.1. It is recommended that the relation between existing designated historic assets and geodiversity is reviewed in conjunction with SNH once detailed guidance on geological / geomorphological features in the Scottish marine protection area is made available.

6. REFERENCES

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HM Government, 2009, *Our seas – a shared resource: High level marine objectives*, Defra.

Marine Scotland, March 2010, *Marine Protected Areas in the Seas Around Scotland: Guidance on the selection of MPAs and development of the MPA network*. Draft.

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Existing Designated Historic Assets: Transition to Historic Marine Protected Areas and Identification of Biodiversity/Geodiversity Value

Appendices A-I

APPENDIX I: ORGANISATIONS CONTACTED IN RELATION TO BIODIVERSITY ASSESSMENT

Organisation/POC	Contact	Relevant Designated Area Site
The Archaeological Dive Unit (ADU) archive C/o Royal Commission on Ancient and Historical Monuments of Scotland (RCAHMS) Iain Fraser Curator, Archaeological Collection	John Sinclair House, 16 Bernard Terrace, Edinburgh EH8 9NX Email: iaian.fraser@rcahms.gov.uk Tel: 0131 662 1456	HMS Dartmouth, Duart Point, Burntisland, HMS Campania, Kennemerland, Wrangels Palais, Kinlochbervie, Mingary
Wessex Archaeology Antony Firth Head of Coastal and Marine	Wessex Archaeology Portway House, Old Sarum Park, Salisbury, SP4 6EB Email: a.firth@wessexarch.co.uk Tel: 01722 326867	HMS Dartmouth, Duart Point, Burntisland, HMS Campania, Kennemerland, Mingary
Lochaline Dive Centre , Mark Lawrence Owner, Licensee	Lochaline, Morvern Argyll PA34 5XT Tel: 01967 421627	HMS Dartmouth, Duart Point, Mingary Castle
Seasearch Chris Wood, National Co-ordinator	MCS, Unit 3 Wolf Business Park, Alton Road, Ross-on-Wye, Hereford HR95NB. Email: chris@seasearch.org.uk ; Tel: 07776142096; http://seasearch.wisshost.net/achievements.htm	All
Scottish Natural Heritage Katie Gillham	Email: Katie.gillham@snh.gov.uk	All
Historic Scotland Philip Robertson	Email: Philip.robertson@scotland.gsi.gov.uk	All
Dive Bunker Mark Blyth Owner, Licensee	Lammerlaws Road Burntisland Fife KY3 9BS Email: hamishdivedog@hotmail.com Tel: 01592 874380	Burntisland, HMS Campania
Former licensee/ Nominated Archaeologist Colin Martin	Arnydie Bankhead Farm Peat Inn Cupar Fife KY15 5LF Tel: 01334 840241	HMS Dartmouth, Duart Point
*Shetland Biological Records Centre	C/o Shetland Amenity Trust Garthspool Lerwick Shetland ZE1 0NY Email: sbrc@zetnet.co.uk Tel: 01595 694688	Kennemerland, Wrangels Palais
*Cape Wrath Charters Jimmy McIntosh	Email: capewrathcharters@tiscali.co.uk Tel: 01971521359.	Kinlochbervie
Former licensee Dr Tim Sharpe	Email: t.sharpe@gsa.ac.uk	Kennemerland, Wrangels Palais
Former licensee Richard Price	Tel: 01828 632418	Wrangels Palais Kennemerland
Former licensee Chris Dobbs (useful POC for other former licensees)	The Mary Rose Trust College Road HM Naval Base Portsmouth PO1 3LX UK Email: c.dobbs@maryrose.org Tel: +44 (0) 23 9275 0521	Kennemerland

Organisation/POC	Contact	Relevant Designated Area Site
*Maritime Archaeological Expert Doug McElvogue (useful POC for former licensees)	Email: mcelvogue@googlemail.com	All
Sula Diving Bobby Forbes	Old Academy Back Road Stromness Orkney KW16 3AN Email: bobby@suladiving.com Tel: 01856 850285	Scapa Flow wrecks
*Shetland Museum & Archives	Hay's Dock, Lerwick , Shetland, ZE1 0WP Email: www.shetland-museum.org.uk/contact.html Tel: (+44)1595 695057	Kennemerland, Wrangels Palais
Envision Mapping Ltd Robert Foster-Smith	6 & 9 Stephenson House Horsley Business Centre Horsley, Newcastle upon Tyne NE15 0NY Email: r.foster-smith@envision.uk.com Tel: +44 (0)1661 854 25	Kennemerland, Wrangels Palais

Organisations contacted in relation to biodiversity assessment of Designated Areas.

* no data relevant to biodiversity review held

APPENDIX II:INVENTORY OF ADU DATA HELD BY RCAHMS

ID	Title	Number	Format	Length	Year
15	Blessing of Burntisland	3	Hi8	90	1999
16	Blessing of Burntisland	1	Hi8	60	1999
2	Blessing of Burntisland	7	Mini DV 120	120	2000
30	Campania	1	Mini DV	60	2000
18	Dartmouth	1	Mini DV	120	2000
17	Dartmouth	1	Mini DV	60	2000
3	Dartmouth	1	Hi8	90	1994
44	Dartmouth	1	VHS	60	1994
45	Dartmouth	1	VHS	240	1994
35	De Leifde	1	Mini DV	60	2002
19	Dresden	1	Mini DV	60	2002
7	Dresden	1	Mini DV	60	2000
46	Duart	1	VHS	180	1991
49	Duart ADU visit	1	VHS	90	1994
29	Duart Bay	1	Mini DV	120	2000
28	Duart Bay	1	Mini DV	60	2000
12	Duart Point	4	Hi8	90	1996
47	Duart Point	1	VHS	240	1992
48	Duart Point	1	VHS	240	1994
1	Duart Point	3	Hi8	90	1992
40	Duart Point	1	Hi8	90	1994
31	Dunbar	1	Mini DV	120	2001
33	Edward Bonaventure	1	Mini DV	60	2000
34	Integrity	1	Mini DV	60	2000
42	Inversaddle Bay	1	VHS	180	1994
36	Irishman	1	Hi8	90	1997
8	Karlsruhe	1	Mini DV	60	2000
22	Kennemerland	1	Mini DV	60	2002
5	Kennemerland	3	Hi8	90	1996
4	Kinlochbervie	35	Mini DV	60	2001
10	Kinlochbervie	1	Mini DV	120	2001
11	Kinlochbervie	2	Mini DV	60	2000
13	Lochaline Slate Wreck	2	Hi8	90	1994
23	Minard Point	1	Mini DV	60	2002
25	Mingary Guns/Kinlochbervie	2	Mini DV	60	2000
37	Navity Bank	1	Hi8	90	?
9	Queen of Sweden	4	Mini DV	60	2002
38	Rubha Fion Ard	1	Hi8	90	1996
26	Scallastle Bay	2	Hi8	90	1995
27	Scallastle Bay	1	Hi8	90	1994
41	Scallastle Bay	1	VHS	60	1994
21	Siccar Rock	3	Mini DV	60	2000
50	Slate Wreck	1	VHS	60	1994
43	SMS Dresden	1	VHS	240	2000
24	St Andrews	3	Mini DV	120	1995
39	Stack Rock	1	Mini DV	60	2002
32	Steamer	1	Mini DV	120	2000
20	Tayport	12	Mini DV	120	1995
14	Wrangels Palais	2	Hi8	90	1996
6	Wrangels Palais	1	Mini DV	60	2002

Inventory of ADU data archive held by RCAHMS, Edinburgh (as provided by RCAHMS)

APPENDIX III: OFFENCES

Offences in relation to Marine Historic Assets (HMPAs)

Intentionally or Deliberately	Carry out works in the area	which which are likely to	Damage a marine historic asset Interfere with a marine historic asset Have a significant impact on the protected area	and	the act has significantly hindered the act may significantly hinder	The stated preservation objectives for the protected area	Unless ... Incidental result of a lawful operation* An exercise of functions by a public authority Expressly authorised or necessarily incidental to an authorised act In accordance with a permit or authorisation Necessary in the interests of national security, prevention or detection of crime or for securing public health Done for the purpose of and in the course of, or in connection with, sea fishing # Carried out for the purpose of saving life, securing the safety of a vessel etc. and Scottish ministers are informed within a reasonable time.
	Carry out activities in the area						
	Remove, alter or disturb a marine historic asset						

* If reasonable precautions taken or could not have been foreseen and reasonably practical steps taken to minimise potential hindrance of preservation objectives.

If the effect of the act on the marine historic asset could not have been avoided (NB whole 'sea fishing defence may be removed or restricted).

Examples of Provisions that can be applied to a MCO

Prohibit Restrict Regulate	Entry into Movement Activity Works (where activity/works includes use of equipment, surveying or exploring (whether intrusive or not), fixing or attaching anything to the seabed or seashore)	Person Animal Vessel Vehicle Thing	In the protected area
	Anchoring of any vessel Fixing of moorings or anchors to the seabed		Within the protected area
	Killing Taking Destruction Molestation Disturbance	Animals Plants	In the protected area
	Removal of all or part of any	Thing Category of things (including in particular all or part of a marine historic asset)	From the protected area
	Depositing by any means	Anything	In a protected area
	Doing of anything which (in the opinion of Scottish ministers) may	Interfere with the seabed Damage the seabed Damage or disturb any object Including a marine historic asset)	In the protected area
		Cause harm	To the protected area
			continues

Restrict the speed at which any vessel or vehicle may move	Where that movement might hinder	Conservation objective (NCMPA; European marine site) Purpose (RDMPA) Preservation objective (HMPA)	In the protected area	
			In any specified area outside the protected area	
Prohibit Restrict	Entry into Movement Activity	Person Animal Vehicle	Any part of the seashore that adjoins the protected area	

Offences under Protection of Wrecks Act 1973

Tamper with Damage Remove	Any part of a vessel lying wrecked on or in the seabed Any object formerly contained in a vessel [lying wrecked on or in the seabed]	other than under authority of a licence ...	<p>Unless ...</p> <p>In the course of any action for the sole purpose of dealing with an emergency of any description</p> <p>In exercising or seeing to the exercise of functions conferred under an enactment</p> <p>Out of necessity due to stress of weather or navigational hazards</p>
Carry out diving operations Carry out salvage operations Use equipment constructed or adapted for any purpose of diving or salvage operations	Directed to the exploration of any wreck Directed to removing objects from any wreck or from the seabed		
Deposit so as to fall and lie abandoned anything which if it were to fall on the site of a wreck (whether it so falls or not) would ...	Wholly obliterate the site Partly obliterate the site Obstruct access to the site Damage any part of the wreck		
Cause or permit any of those things to be done by others			
Obstruct a person from doing anything which is authorised by a licence			
Cause or permit a person to be obstructed from doing anything which is authorised by a licence			

Offences under Ancient Monuments and Archaeological Areas Act 1979

Any works resulting in	Demolition Destruction Any damage	A scheduled monument	unless the SoS has granted written consent for the execution of the works; and the works are executed in accordance with the consent and any conditions	It shall be a defence to prove ... With respect to demolition / destruction / damage, , took all reasonable precautions and exercised all due diligence to avoid or prevent damage Did not know and had no reason to believe that there was a monument in the area of the works or that it was a scheduled monument Works were urgently necessary in the interests of health and safety and notice given as soon as reasonably practicable
Any works for the purpose of	Removing Repairing Making any alterations Making any additions	A scheduled monument or any part of it		
Any flooding operations Any tipping operations		On land in, on or under which there is a scheduled monument		
Failing to comply with a condition				Unless all reasonable precautions taken and all due diligence exercised to avoid contravening the condition.

APPENDIX IV: DEFINITIONS OF ENTITIES THAT MAY BE DESIGNATED
Definition of area that may be designated as a Historic MPA under Marine (Scotland) Act 2010

A marine historic asset									
Any area	Of the Scottish marine protected area	If Scottish Ministers	consider it desirable	for the purpose of preserving	Vessel	of national importance	which is which they are satisfied may be located in the area		
					Vehicle				
					Aircraft				
					Part of a vessel, vehicle or aircraft				
					Remains of a vessel vehicle or aircraft				
					Part of such remains				
					Object			contained in formerly contained in	Vessel Vehicle Aircraft
					Building Other structure Part of a building or structure				
					Cave Excavation				
					Deposit				
Artefact	Whether or not formerly part of a cargo of a ship	of national importance	which is which they are satisfied may be located in the area						
Any other thing which evidences previous human activity									
Any other group of things which evidence previous human activity									

Definition of marine monuments which may be added to the Schedule under the AMAA 1979

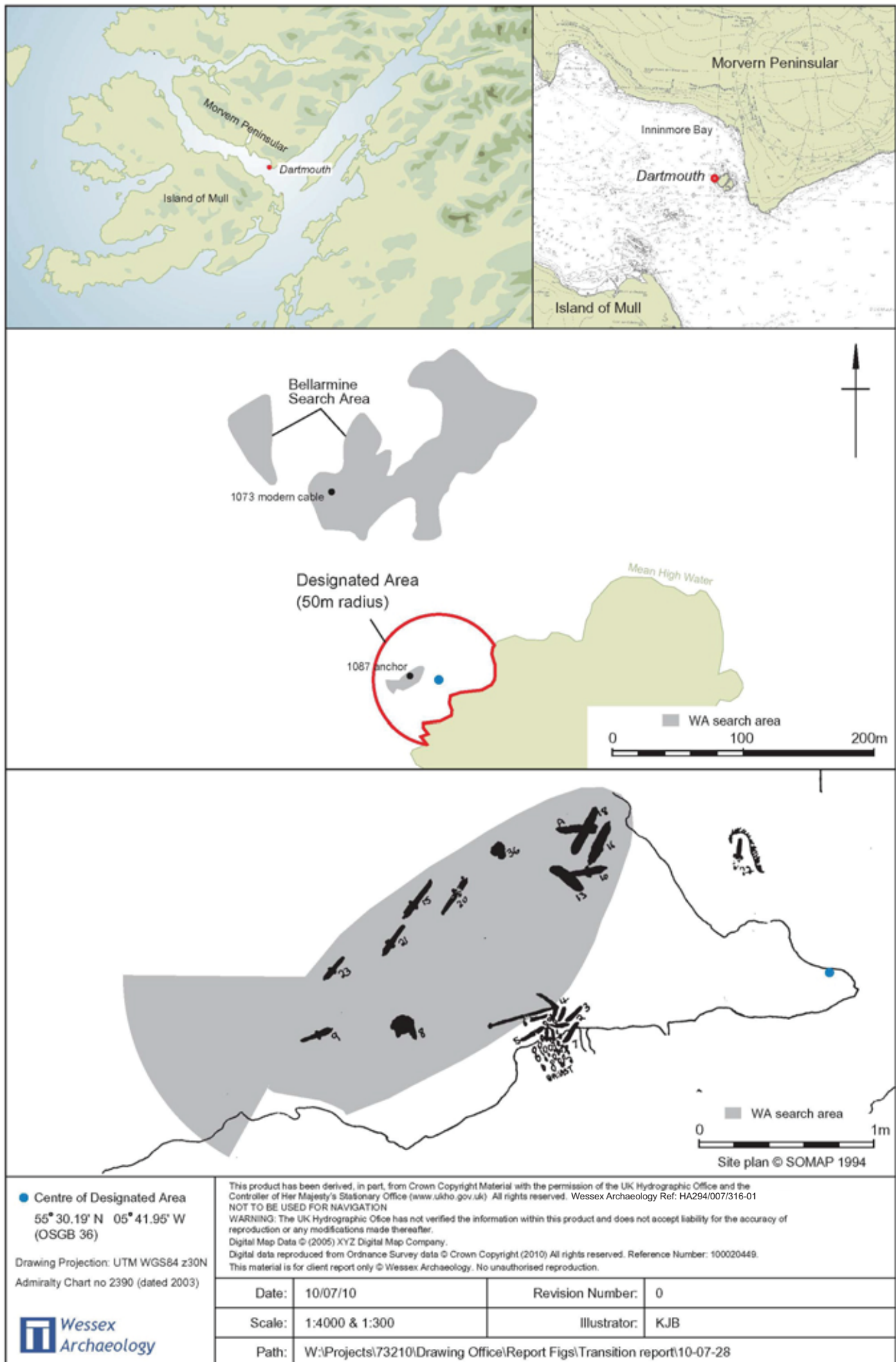
Monument						
SoS may include any	Building Structure Work	Whether ...	Any machinery attached to a monument shall be regarded as part of the monument if it could not be detached without being dismantled	situated in, on or under the sea bed within the seaward limits of United Kingdom territorial waters adjacent to the coast of Great Britain		
		Above the surface of the land Below the surface of the land				
	Cave Excavation					
		Building Structure Work Cave Excavation				
	Site comprising the remains of					
Any ... Vehicle Vessel Aircraft Other movable structure Or part thereof		Which neither constitutes nor forms part of any work which is a monument				
		which appears to him to be				
		of national importance				

Definition of area that may be restricted under Part I of the PWA 1973

Area around site	If SoS	is satisfied that	any site	is may prove to be	site of a vessel lying wrecked (‘wreck’)	on the seabed in the seabed	in United Kingdom Waters	that ought to be protected from unauthorised interference	On account of ... Historical importance Archaeological importance Artistic importance	Of vessel		
										Of any objects	Contained Formerly contained	Lying on the seabed in or near the wreck

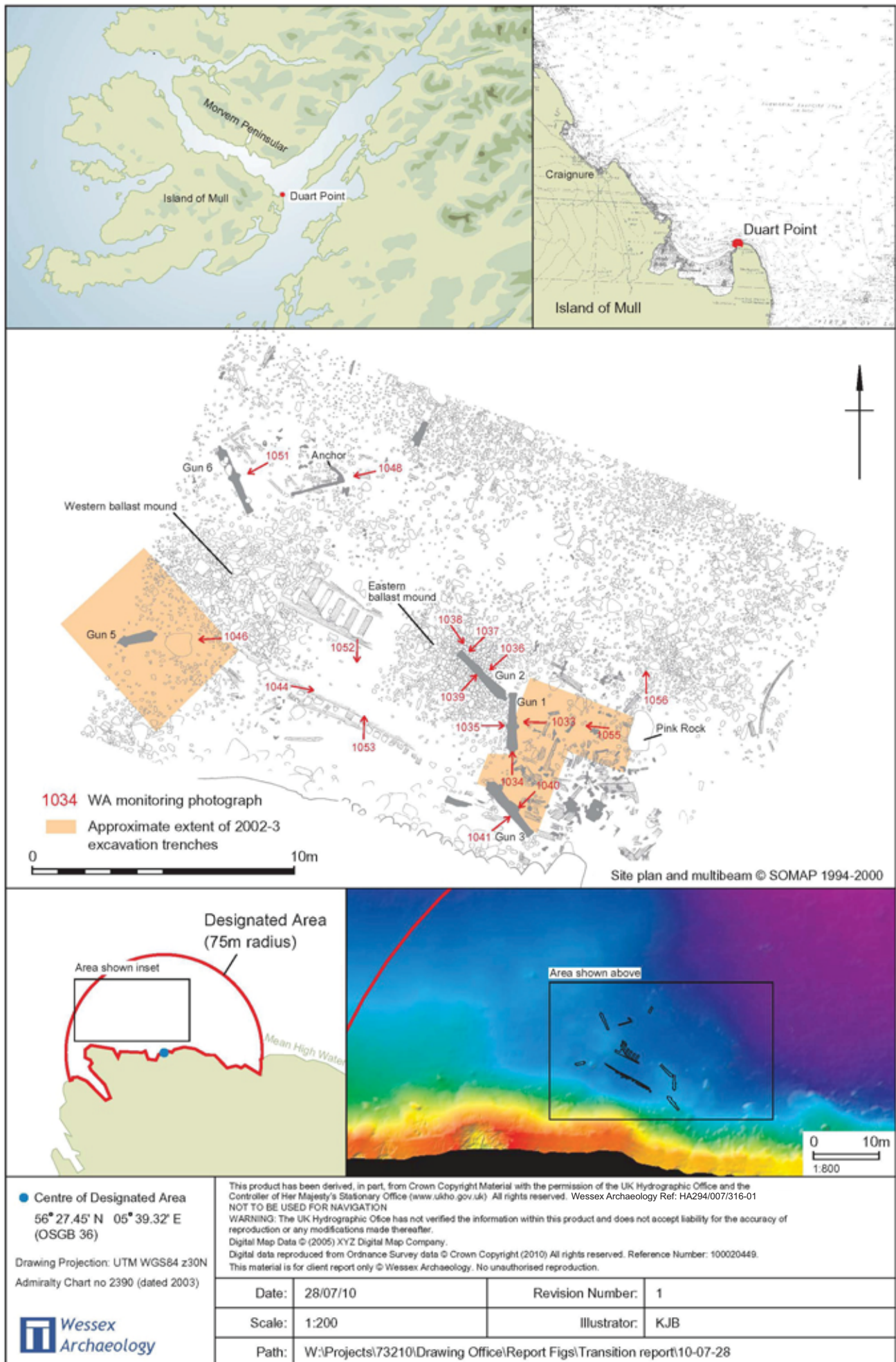
APPENDIX V: AVAILABILITY OF MAPPED DATA

Site	Site Plan	Geophysics	Des. Buffer	Admiralty Chart	Dive Obs.	Topographic illustrations	WA Drawing Files
Dartmouth	Figure 3 from 2003 WA report	None	50m	2171	2003 WA	N/A	Z30_Dartmouth_SOMAP_1994_site_plan.tif Z30_Dartmouth_WASearchArea.shp Z30_Dartmouth_KeyObs.shp
Duart Point	Not georeferenced	SOMAP 1994-2005 SSS, Multibeam, and geotiffs	75m	2171	No	N/A	z30_Duart_SOMAP_1994-2000.tif z30_DuartMB_SOMAP_1994-2000.tif z30_Duart_ExcavationTrench_2002-3.shp z30_Duart_WAMonitoringPhoto.shp
Blessing of Burntisland	None	2004 WA Report	100m	733	No	N/A	z30_BurntislandSSS_5ppm.tif
HMS Campania	None	2004 WA Report	100m	733	No	N/A	z30_CampaniaMB_ADUS2008.tif z30_CampaniaSSS.tif
Wrangels Palais	None	None	100m	1119	No	N/A	
Kennemerland	None	None	250m	1119	No	N/A	
Kinlochbervie	None	None	300m	N. Minch	No	N/A	z30_SitePlan_PRobertson_DParham.tif
Mingary Castle	Fig 5 from 2007 WA report	None	250m	2171	2006 WA and 2007 WA	2007 WA	z30_Mingary_dive_obs_2006.shp z30_Mingary_dive_obs_2007.shp z30_Mingary_guns_seen_in_2007.shp z30_Mingary_topography.shp
Scapa Wrecks	None	See: Scapamap	500m	Cape Wrath - Pentland Firth and Orkney Islands.	No	N/A	z30_MB_ScapaMAP_Composite_2m.tif z30_ScapaSalvageSites.shp
Scapa Salvage Sites	None	None	Fixed points		No	N/A	



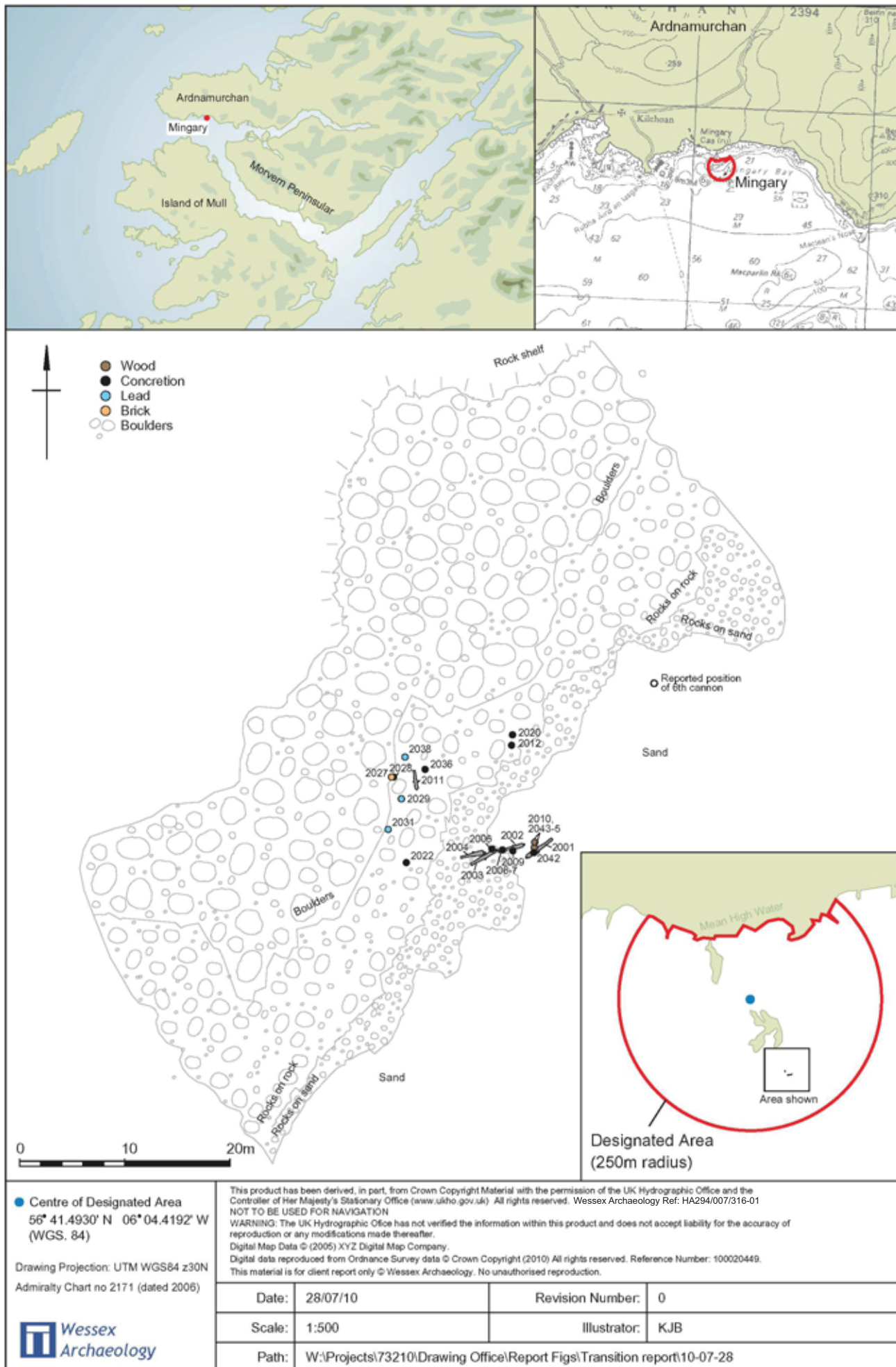
Dartmouth site location and plans

Figure A1



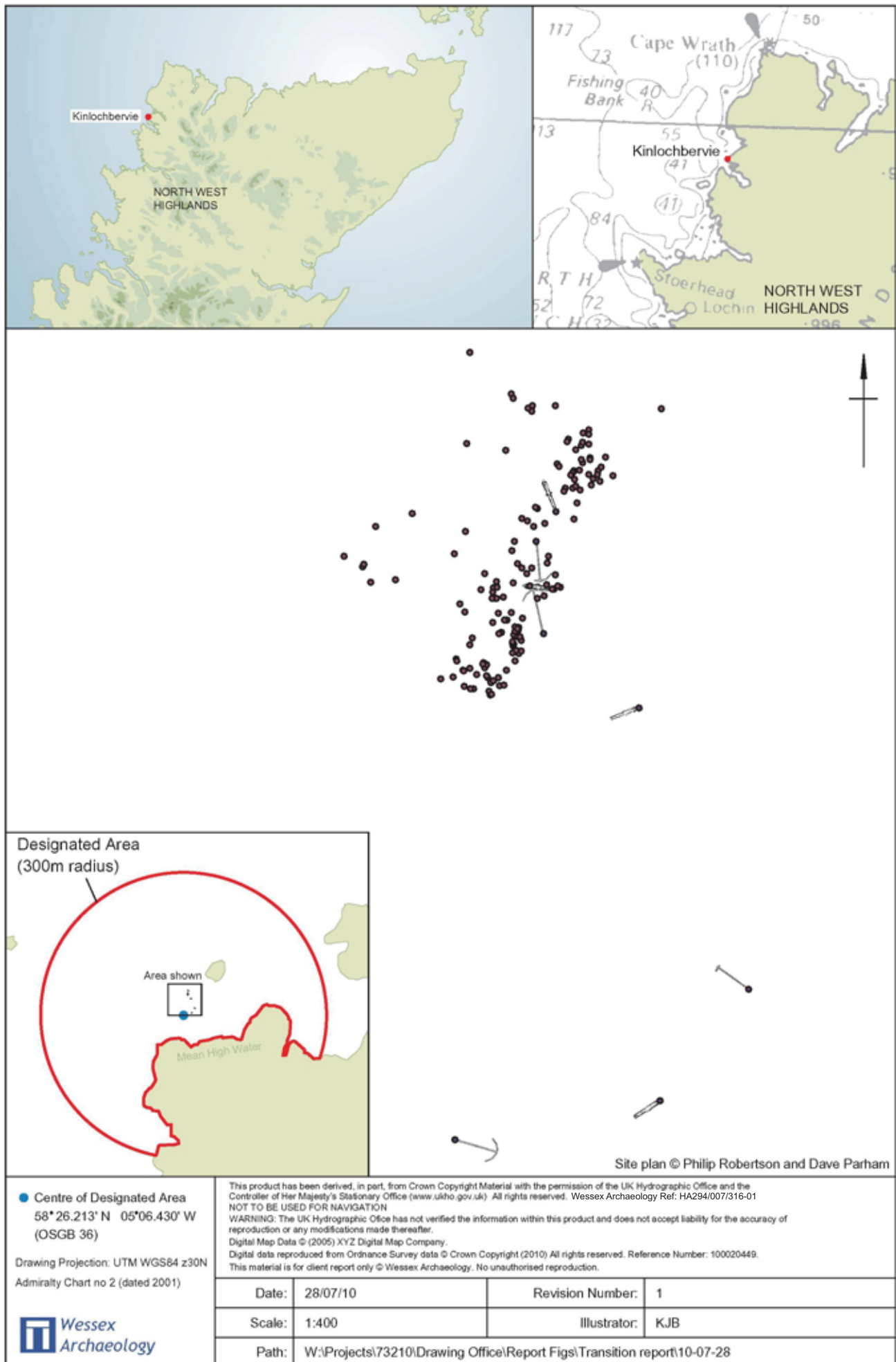
Duart Point site location

Figure B1



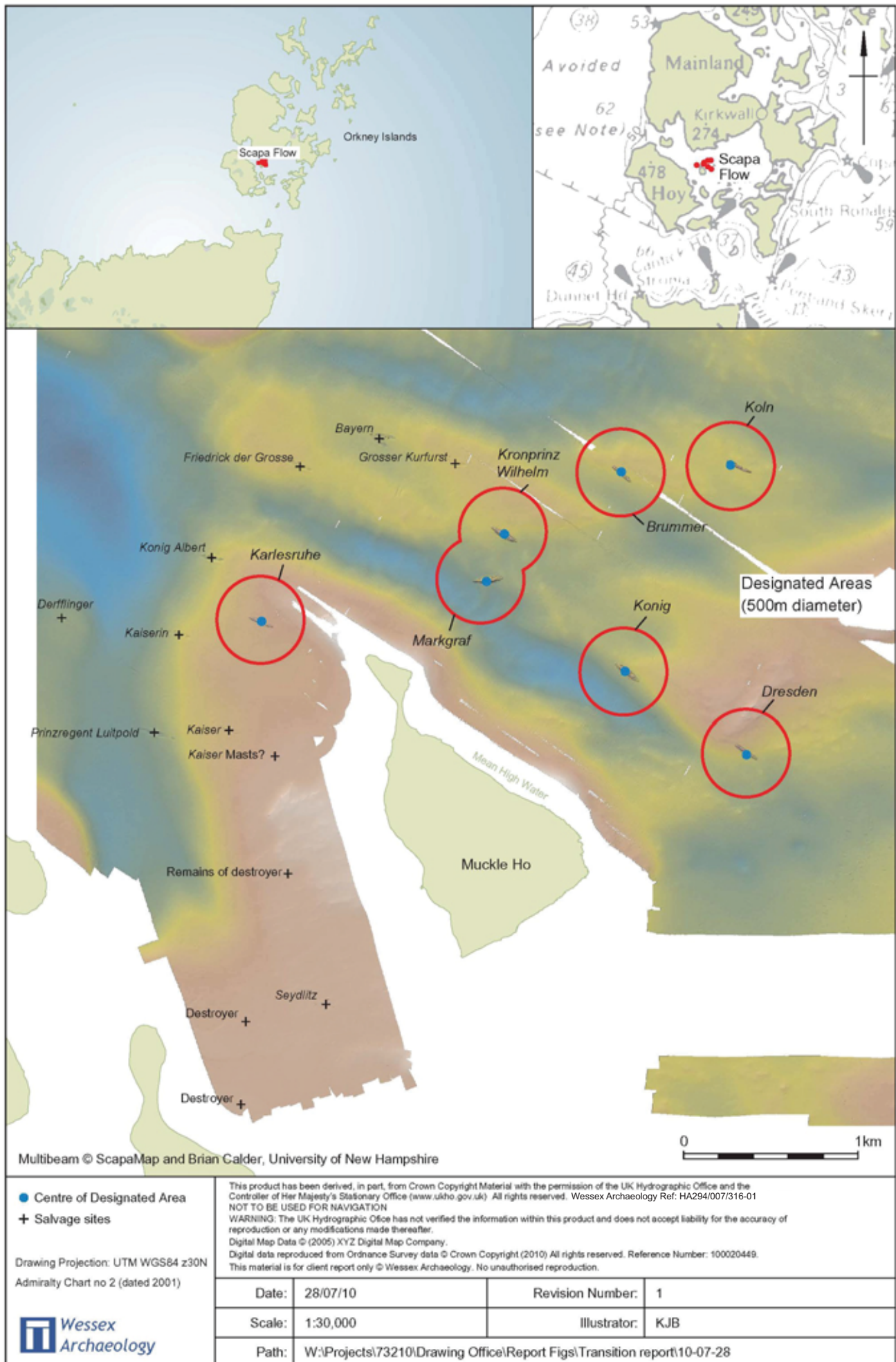
Mingary site location

Figure C1



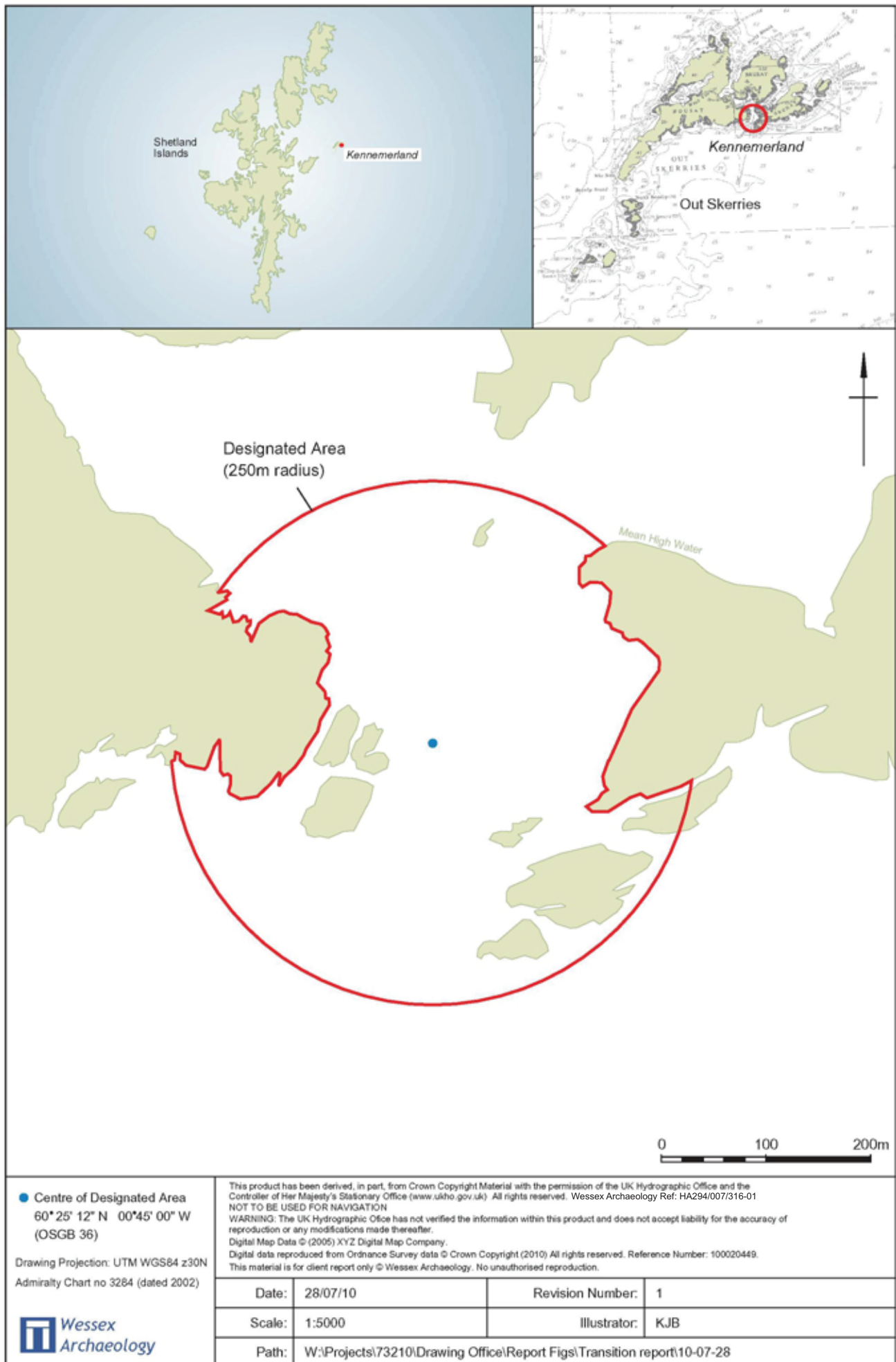
Kinlochbervie site location, and site plan showing main iron artefacts and scatter of all artefacts

Figure D1



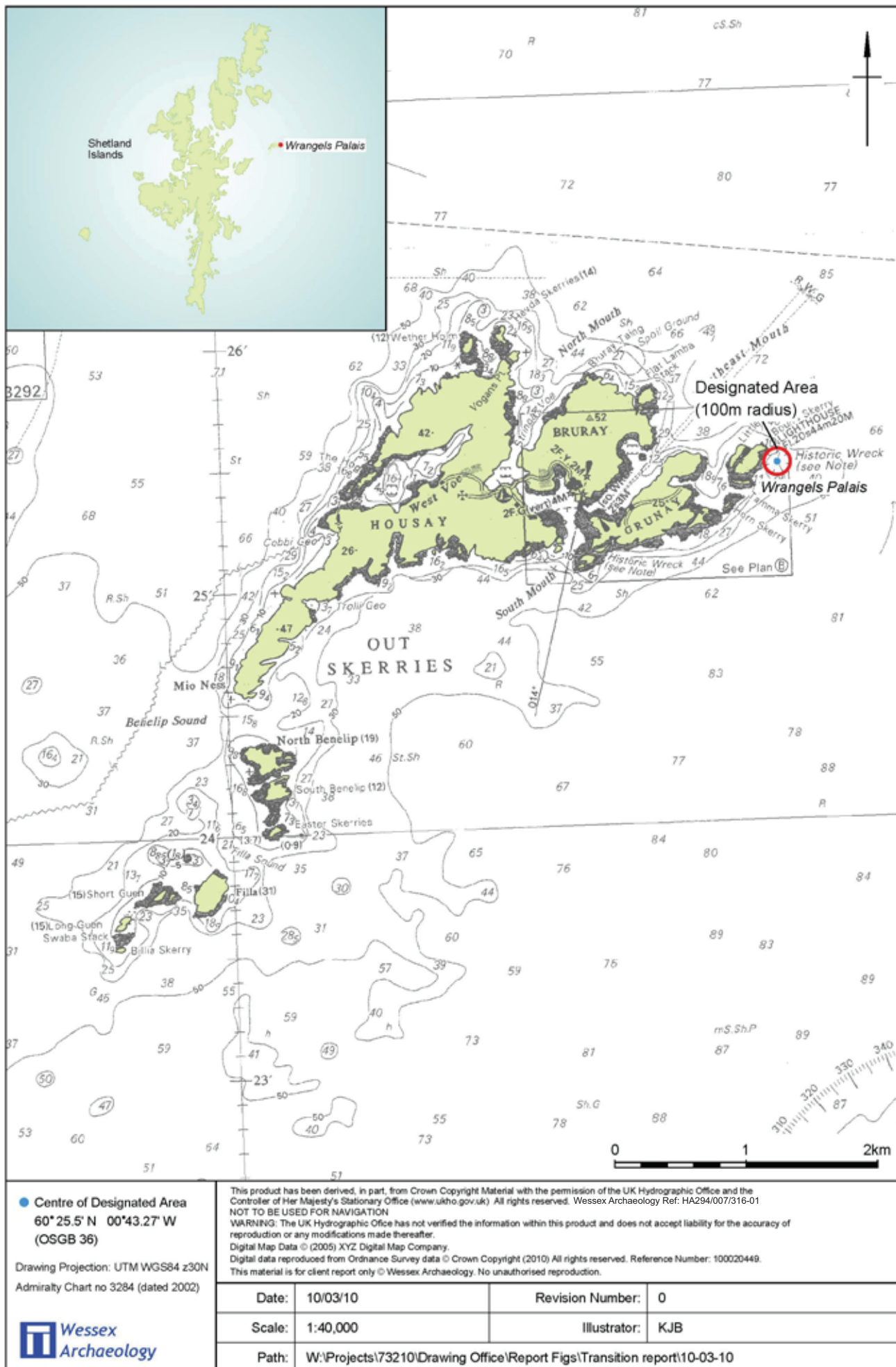
Scapa Flow site locations

Figure E1



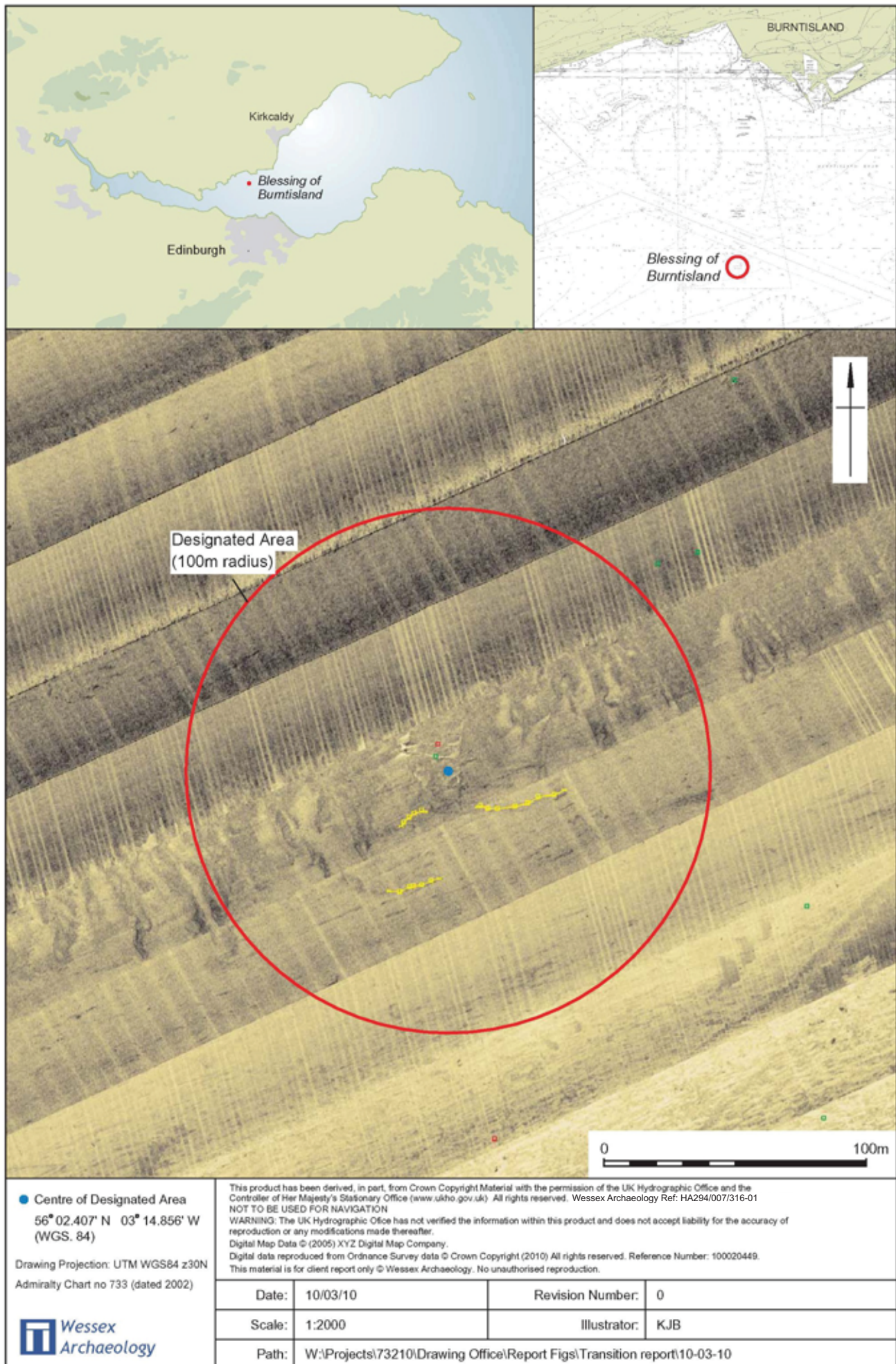
Kennemerland site location

Figure F1



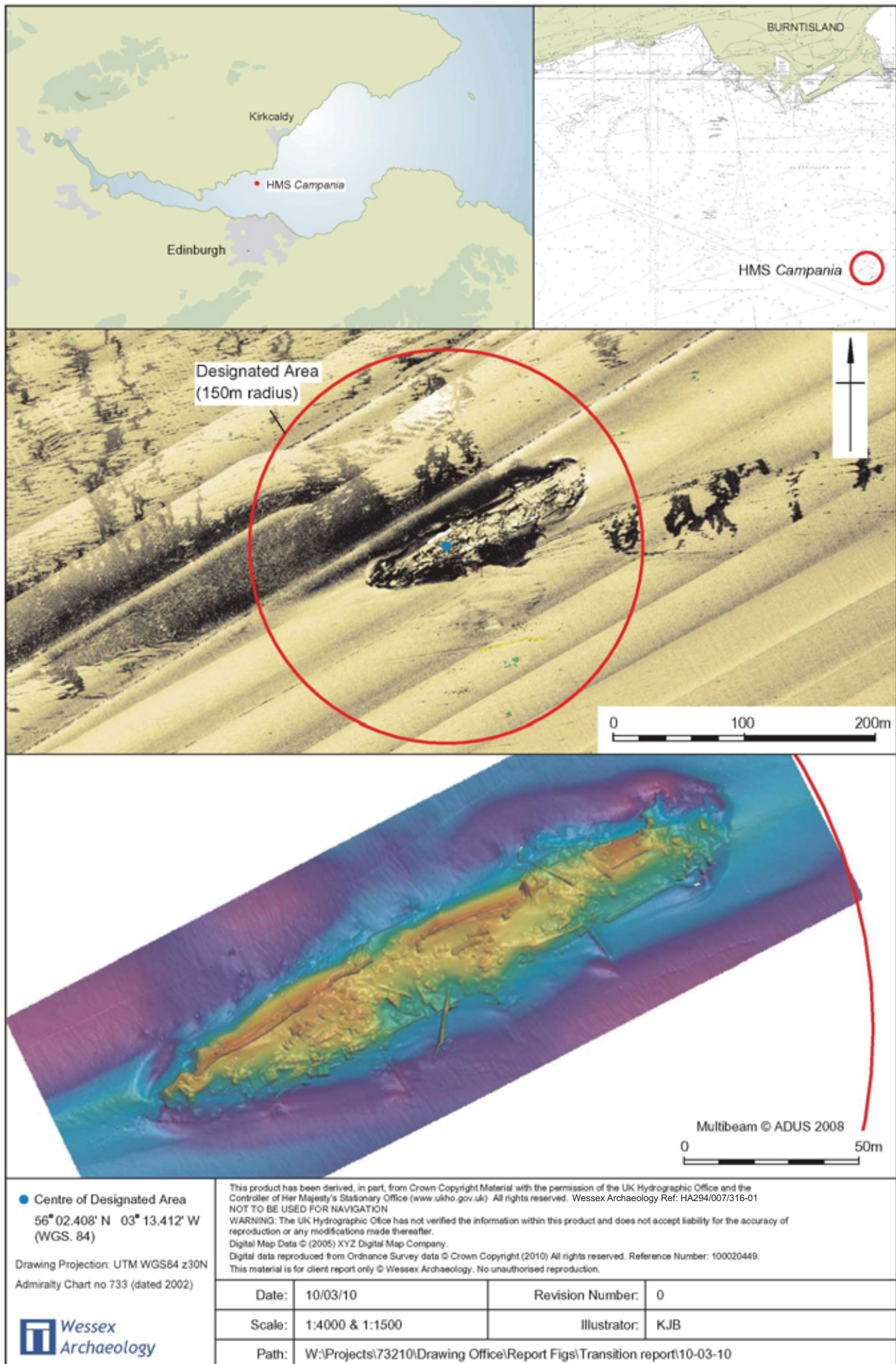
Wrangels Palais site location

Figure G1



Blessing of Burntisland site location, and sidescan sonar mosaic with anomalies marked

Figure H1



HMS *Campania* site location, sidescan sonar mosaic with anomalies marked and multibeam

Figure I1



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