MANAGING CHANGE IN THE HISTORIC ENVIRONMENT

CONSERVING OUR UNDERWATER HERITAGE

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

CONTENTS

St Andrews Harbour which is a Category A listed building.

GLOSSARY

Term	Definition
Aquaculture	The production of fish, shellfish, crustaceans, seaweeds or algae in a managed environment, often enhancing production beyond that which would normally be achieved naturally.
Biodiversity	Biological diversity – or biodiversity – is the variety of life. It includes all living things around us. It is the variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part. This includes diversity within species, between species and of ecosystems.
Climate and nature crises	The climate and nature crises are interconnected and need to be tackled together. The climate crisis is a result of primarily human activities, such as burning fossil fuels, that is driving long-term changes in global temperatures and weather patterns. The impacts of the climate crisis are driving biodiversity loss and conversely, the destruction of nature exacerbates climate change.
Heritage assets	The physical elements of the historic environment – buildings, monuments, sites, places, areas or landscapes, that have cultural significance.
Historic environment	The historic environment is our surroundings as they have been shaped, used and valued by people in the past, and continue to be today.
Historic marine protected areas (MPAs)	Historic MPAs protect marine historic assets of national importance in the territorial seas around Scotland (out to 12 nautical miles).
Intangible cultural heritage	UNESCO defines 'Intangible cultural heritage' as 'the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage'.

PART 1: GETTING STARTED

This section covers the background, status and context of this guidance and understanding underwater heritage.

It includes:

- Key messages
- Document status
- Relevant policies
- Understanding our underwater heritage

INTRODUCTION

This guidance is about conserving underwater heritage around the coasts of Scotland and in freshwater environments such as lochs and rivers.

Underwater heritage is the physical evidence of the human past which survives under water. It enriches Scotland's landscape, charts an important part of our history, and makes a positive contribution to wellbeing and the economy.

This guidance is primarily for practitioners and decision-makers who encounter underwater heritage in the course of their duties, as well as those who want to understand the impacts of a proposed change.

This includes individuals or organisations involved in:
- heritage management
- terrestrial and marine planning
- water-body management
- archaeological and environmental consulting or development

This guidance may also be of interest to those who interact with underwater heritage for recreation, for example, scuba diving, or in the course of their work, such as commercial fishers.

This is a practical guide on how to assess and manage the impacts of change while respecting the cultural significance of underwater heritage sites.

It has four parts that include:
- Understanding underwater heritage
- How underwater heritage is protected
- Impacts on underwater heritage
- Considerations for undertaking activities that are directed at underwater heritage

FURTHER INFORMATION

CULTURAL SIGNIFICANCE

The Historic Environment Policy for Scotland uses the meaning of 'cultural significance' set out in the Burra Charter:

> **Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.**
>
> **Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.**

Historic Environment Scotland's 'Talking about heritage' guides have advice on understanding significance which will be helpful if you're new to the idea. They also have more detailed advice on writing about significance.

Designation Policy and Selection Guidance explains how Historic Environment Scotland considers cultural significance when designating scheduled monuments and advising the Scottish Government on historic marine protected areas (MPAs).

TERMINOLOGY

This guidance uses the term underwater heritage throughout which is defined as the physical evidence of the human past which survives under water.

The term underwater cultural heritage has a specific definition as outlined in the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage.

Wessex Archaeology diver around the engine of PS Comet. Comet was a wooden paddle steamer. The engine consists of a single-cylinder side-lever steam engine. This investigation worked with the finders of the wreck to prepare a site plan and assessment for designation.

KEY MESSAGES

1. Underwater heritage enriches Scotland's landscapes and places. It contributes to local identity and intangible cultural heritage.

2. The cultural significance of underwater heritage sites is an important consideration when assessing and managing the impacts of change.

3. Underwater heritage has intrinsic value due to its cultural significance but will also have value due to other factors such as its contribution to underwater habitats, biodiversity and the economy.

4. Scotland's underwater heritage charts an important part of our history. It reflects Scotland's place in European and global history, including the movement of people, goods and ideas.

5. Underwater sites, including terrestrial areas and buildings with underwater elements, have equal status with land-based sites in national policy and strategy for the historic environment.

6. Development in and use of freshwater and marine environments should protect, and where appropriate, enhance underwater heritage. This should be done in a manner proportionate to its significance, recognising that underwater heritage is a finite resource.

7. Managing development and other change provides the opportunity to explore ways to improve knowledge and access. It can help to address the inaccessibility of underwater sites.

8. Our underwater heritage is part of an environment that is dynamic and changing. Some of these changes are becoming more rapid as the result of the climate and nature crises.

STATUS

This guidance note is relevant to decisions relating to the management of change affecting underwater heritage in freshwater environments such as lochs and rivers, and in the marine environment. It forms part of a suite of national guidance on managing change in the historic environment.

This guidance is a material consideration for decisions in the terrestrial and marine planning systems, including planning permission, marine licensing, and other types of consent. This means that decision-makers should take it into account when coming to a decision.

This guidance applies from land out to sea, covering areas where different legal and policy frameworks apply, and where many organisations have roles and responsibilities (see figure 1).

The Historic Environment Policy for Scotland (HEPS) outlines the key policy considerations for making decisions about works that affect our historic environment, whether on land or under water. It underpins this guidance.

There are at least 500 known crannogs, or artificial island dwellings, across Scotland. Many are unexplored and understudied but they offer some of the best-preserved sources of evidence for human life in the past, and for understanding what the environment and climate was like.

Investigations by the Living on Water project since 2017 have used the latest dating techniques to develop a chronology and social history for Loch Tay, Perthshire, focusing on the crannog dwellers living there over 2,500 years ago.

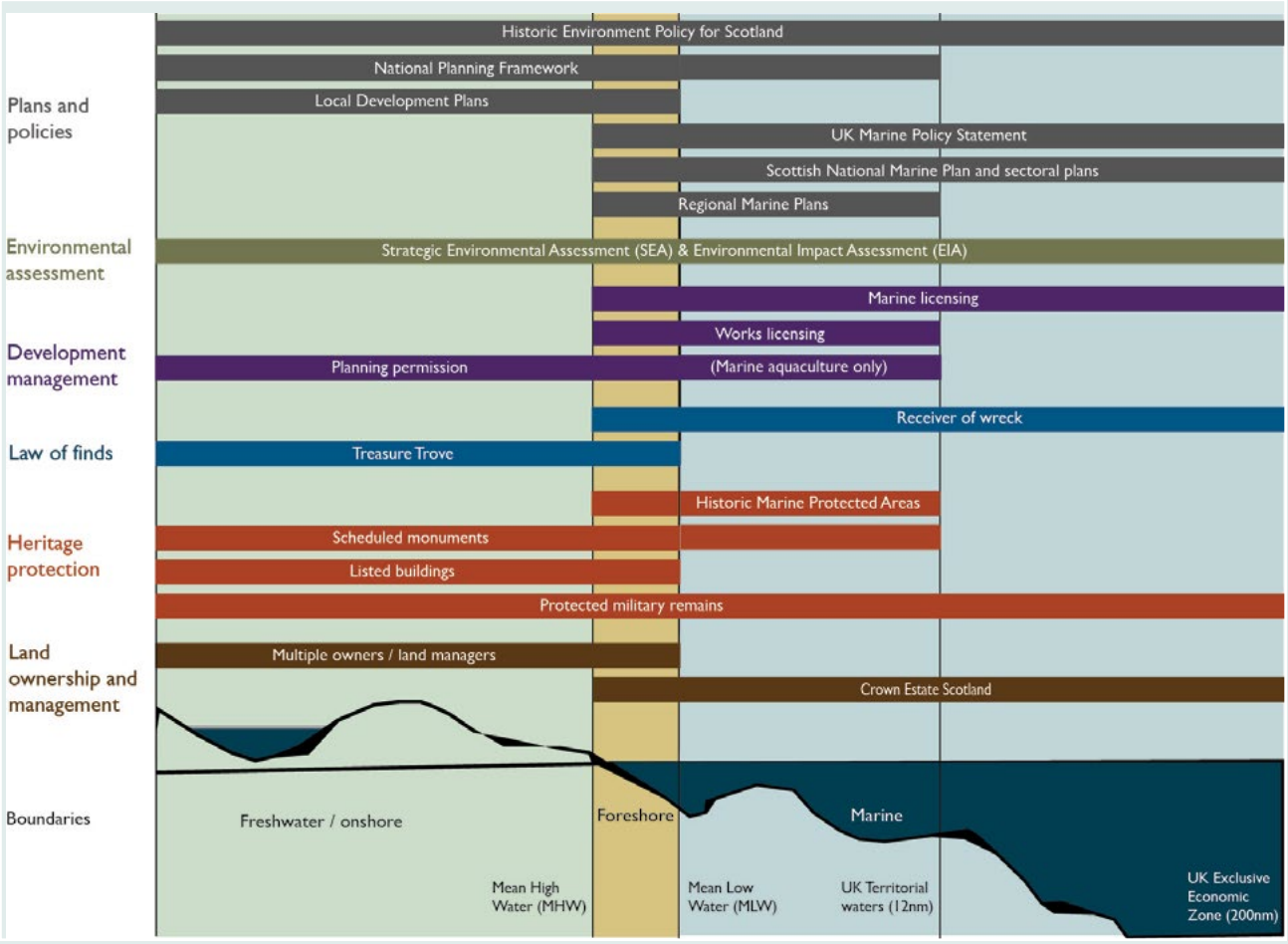
FURTHER INFORMATION - TERRESTRIAL AND MARINE PLANNING

Terrestrial planning refers to elements of the land use planning system. It encompasses the National Planning Framework, Local Development Plans and land use plans. It extends to the mean low water mark which is the average line of low tide, and also covers freshwater bodies. The exception to this is marine aquaculture, where the terrestrial planning system covers areas out to 12 nautical miles offshore.

Marine planning refers to a process that considers multiple users of the sea to make informed and coordinated decisions. It covers the area to the mean high water mark which is the average line of high tide. The UK Marine Policy Statement and Scotland's National Marine Plan provides the overarching framework for marine activity. This is supported by the Regional Marine Plans and Sectoral Marine Plans, such as the Offshore Wind Plan.

The intertidal zone is the area between mean low water mark and mean high water mark where the terrestrial and marine planning systems overlap. Managing this area requires close cooperation between the terrestrial and marine planning systems, as set out in Planning Circular on the relationship between the statutory land use planning system and marine planning and licencing.

Figure 1: Diagram that shows the frameworks for conserving underwater heritage in Scotland. It groups them into themes and highlights the spatial boundaries of these frameworks, covering the land up to the UK Exclusive Economic Zone that is 200 nautical miles (nm) out to sea. (1 nautical mile = 1.852km)



FURTHER INFORMATION – KEY POLICY REFERENCES

These policies advocate appropriate consideration for both designated and undesignated sites and places.

HEPS KEY POLICIES

The Historic Environment Policy for Scotland (HEPS) should be taken into account whenever a decision will affect the historic environment, including in relation to freshwater or marine underwater heritage.

HEP1 – **Decisions affecting any part of the historic environment should be informed by an inclusive understanding of its breadth and cultural significance.**

HEP2 – **Decisions affecting the historic environment should ensure that its understanding and enjoyment as well as its benefits are secured for present and future generations.**

HEP3 – **Plans, programmes, policies and strategies, and the allocation of resources, should be approached in a way that protects and promotes the historic environment. If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place.**

HEP4 – **Changes to specific assets and their context should be managed in a way that protects the historic environment. Opportunities for enhancement should be identified where appropriate. If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place.**

NPF4 KEY POLICIES

National Planning Framework 4 (NPF4) is the national spatial strategy for Scotland. It sets out principles, regional priorities, national developments and national planning policy. It covers terrestrial planning.

Policy 7 of NPF4 outlines policies on historic assets and places and includes specific policies for assets such as listed buildings and scheduled monuments. This includes Policy 7k which states, "Development proposals at the coast edge or that extend offshore will only be supported where proposals do not significantly hinder the preservation objectives of Historic Marine Protected Areas."

NPF4 should be read as a whole, however Policy 10, Policy 11 and Policy 32 are particularly relevant to underwater heritage.

UK MARINE POLICY STATEMENT

The UK Marine Policy Statement (UKMPS) provides a framework for preparing marine plans and making decisions affecting the marine environment.

SCOTLAND'S NATIONAL MARINE PLAN

The National Marine Plan sets out strategic policies for the sustainable development of Scotland's marine resources out to 200 nautical miles and aligns with the UKMPS.

BLUE ECONOMY VISION

Scotland's Blue Economy Vision sets out the long-term ambition for Scotland's blue economy to 2045. The blue economy approach recognises that our economies, livelihoods and wellbeing all depend on nature. It acknowledges that our marine, coastal and interlinked freshwater resources are national assets and part of Scotland's cultural identity that have shaped our economy.

UNDERSTANDING OUR UNDERWATER HERITAGE

What is our underwater heritage?

Underwater heritage is the physical evidence of the human past that survives under water. This includes beneath fresh, or inland, waters or beneath salt, or marine, waters around Scotland's coasts. It may be visible on the bed of the water body, buried beneath sediment or exposed in tidal waters. Underwater heritage has intrinsic value due to its cultural significance.

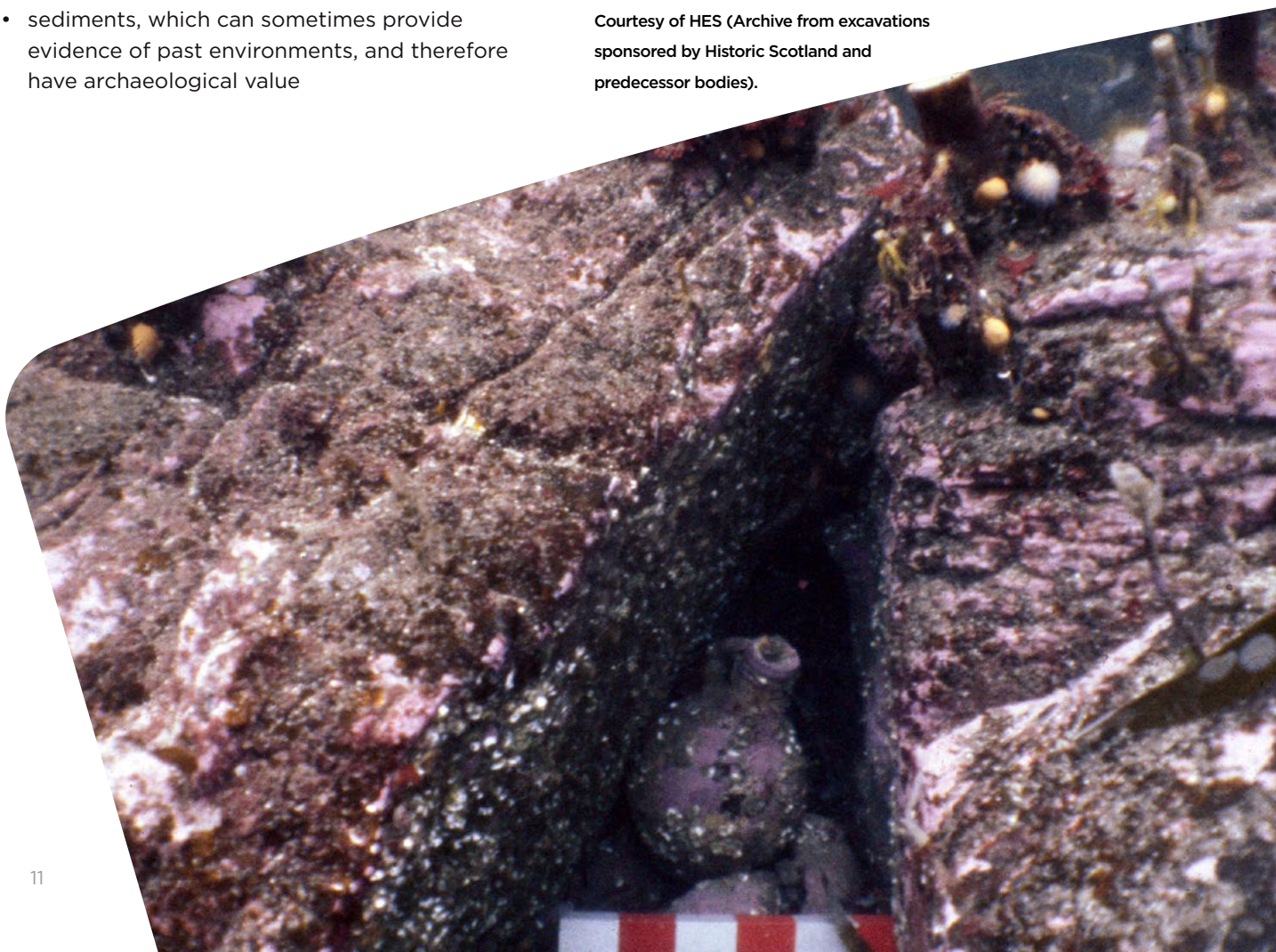
Our underwater heritage includes:

- the remains of vessels or aircraft, and items dropped, lost overboard or fired from them
- the remains of structures which were originally built wholly or partly under water, such as fishtraps and crannogs
- the underwater elements of structures such as piers, harbours, bridges and jetties
- the remains of human activity which originally took place on land which has since been inundated with water
- sediments, which can sometimes provide evidence of past environments, and therefore have archaeological value

In 2011 Shetland Islands Council developed a proposal to carry out some dredging work at the South Mouth entrance to the harbour at Out Skerries. This was within the boundary of the Out Skerries Historic Marine Protected Area and the location for the wreck Kennemerland, a merchant vessel lost in 1664. The dredging work was needed to allow for a larger ferry.

Shetland Council contracted an archaeologist to assess impacts, prepare the necessary license applications, oversee works and report and archive results. A written scheme of investigation proposed mitigation involving limited excavation and a metal detector survey of areas of archaeological potential. The works were completed successfully in 2013.

Courtesy of HES (Archive from excavations sponsored by Historic Scotland and predecessor bodies).



Why is it important?

Our underwater heritage has the potential to reveal wide-ranging information about people and the environment from all periods of the past. Given the right circumstances the underwater environment is ideal for long-term preservation, particularly of organic materials like wood, leather and fabric. This means underwater sites can yield fascinating information that is usually missing from land-based sites.

Underwater heritage assets play a part in Scotland's cultural identity. Since prehistory, Scotland's coasts, seas, lochs and rivers have been of immense importance to the communities who lived close to them. This includes through intangible cultural heritage such as fishing practices and storytelling.

Underwater heritage enriches Scotland's landscape and contributes to a unique sense of place and local identity. It creates spaces for recreation, education, tourism and leisure. It also makes a positive contribution to the economy through supporting Scotland's Blue Economy Vision.

Our underwater heritage influences, and is influenced by, our wider heritage and historic environment. Our marine heritage, in particular, reflects Scotland's colonial past, and is key to understanding the wealth and influence that Scotland gained through empire.

Underwater heritage is not just important to the people of Scotland. It demonstrates the history of peoples, nations, and their relations with each other. This includes the movement of goods, ideas, and people. Scotland's maritime heritage reflects its place in the British Isles, Europe and the wider world.

Kinnaird Head Castle Lighthouse was the first operational lighthouse to be built in Scotland by the Northern Lighthouse Board in 1787.

Climate and nature crises

Our historic environment, including underwater heritage, is on the frontline of the dual climate and nature crises. Scotland's coastlines are already experiencing an increase in the frequency and extent of coastal flooding and storms, with rising sea levels shifting coastlines.

A Guide to Climate Change Impacts on Scotland's Historic Environment identifies the key hazards and impacts of climate change on the historic environment, including for underwater heritage. Some examples include increased wave action, sea temperatures and ocean acidification. Underwater heritage itself can pose a risk to the natural environment, for example, due to hazardous cargos and pollutants.

Underwater heritage also plays a key role in tackling the climate and nature crises. It can support biodiversity by providing structural diversity to our aquatic ecosystems. For instance, a shipwreck can act as an artificial reef, supporting a wide range of organisms.

Any change which impacts underwater heritage is an opportunity to consider ways to maximise the contribution the historic environment can make to our climate and nature response.

FURTHER INFORMATION – RELEVANT STATEMENTS AND STRATEGIES

There are several policies, statements and strategies that underpin underwater heritage as a vital part of our response to the climate and nature crises.

POINTING THE WAY TO THE FUTURE

Pointing the Way to the Future, a statement from Historic Environment Scotland (HES), outlines that the historic environment can and must be part of our response to our changing world and the challenges we face.

OUR PAST, OUR FUTURE

Our Past, Our Future, the strategy for Scotland's historic environment, outlines acting on the climate and nature crises is a key principle for the sector.

PART 2: PROTECTING UNDERWATER HERITAGE

This section covers the different mechanisms that can protect underwater heritage.

It covers:

- Plans, programmes, policies and strategies
- Laws relating to finds
- Designations
- Permissions and consents

PLANS, PROGRAMMES, POLICIES AND STRATEGIES

Public authorities consider underwater heritage in the Strategic Environmental Assessment processes for plans, programmes, policies and strategies. This helps to ensure underwater heritage is appropriately considered at an early stage in strategic planning processes.

Scotland's National Marine Plan

The National Marine Plan outlines strategic policies to support the sustainable development of Scotland's marine resources. This includes managing the increasing demands on the marine environment and embedding environmental protection into decision making.

It also helps to ensure Scotland's marine resources can adapt to the impacts of the climate and nature crises.

Regional Marine Plans

Marine Planning Partnerships can take forward regional marine plans in the 11 Scottish Marine Regions. These allow more local ownership over decision making about specific issues within these local areas out to 12 nautical miles offshore.

The Marine Scotland Act 2010 outlines the delegated powers of Orkney, Shetland and Comhairle nan Eilean Siar over their regional waters.

There can be regional differences in how planning processes work – if you are in any doubt, check with your local authority in the first instance.

Sectoral Marine Plans

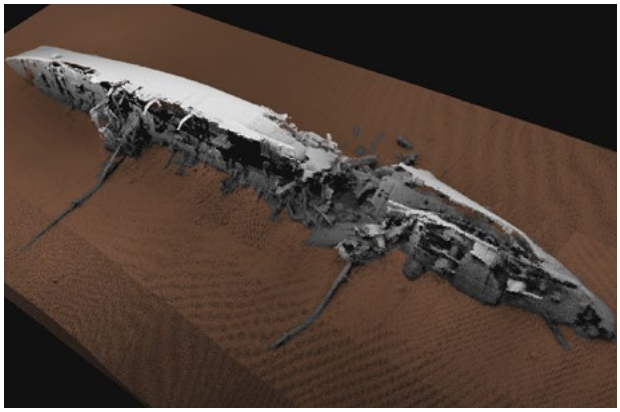
Sectoral Marine Plans can be developed to provide policies and spatial strategies to steer development in specific sectors, such as the Sectoral Marine Plan for Offshore Wind.

The Clyde Marine Planning Partnership (CMPP) will take forward regional marine planning in the Clyde, with the powers to develop a regional marine plan by legislation known as a Ministerial Direction.

LAWS RELATING TO FINDS

Issues of ownership and reporting of archaeological finds can be complex. Recoveries of artefacts from inland waters, from within harbours, and from the coast and other tidal waterways down to mean low water must be reported to the Treasure Trove Unit. Where finds are claimed as treasure trove for their archaeological or historical importance, the finder is eligible for an award.

All 'wreck' recovered from UK waters, or outside UK waters and landed in the UK, must be reported within 28 days to the Receiver of Wreck (RoW). The finder may be entitled to a salvage award.



In 1919, 52 ships were scuttled in Scapa Flow, Orkney, the largest maritime scuttling in history. In 2001, these shipwrecks were protected as scheduled monuments, meaning the removal of any items from within and around them was an offence.

In 2012 Police Scotland seized a number of items and, after significant research into them, two scuba divers were charged in relation to offences under the Ancient Monuments and Archaeological Areas Act 1979. At Court in 2016, they were fined a total of £36,000.

FURTHER INFORMATION – WRECK

The definition of wreck includes jetsam, flotsam, lagan and derelict found in or on the shores of the sea or any tidal water.

This includes:

- wreck material found in or on the sea
- wreck material washed ashore in tidal waters
- material recovered from a wreck site — regardless of age, size or apparent importance or value

There are four main types of wreck:

Flotsam — goods lost accidentally from a sinking ship, which float and can be recovered.

Jetsam — goods which are deliberately thrown overboard (or 'jettisoned') to lighten the load of a ship in danger of sinking.

Derelict — goods or remains of a ship, aircraft or hovercraft abandoned at sea with no hope of recovery.

Lagan — goods deliberately cast overboard from a sinking ship, which are buoyed to allow them to be recovered.

DESIGNATIONS

Underwater heritage can be protected through a variety of different designation systems.

Historic Marine Protected Areas (MPAs)

Historic MPAs protect marine historic assets of national importance in territorial waters around Scotland (out to 12 nautical miles). This includes historic shipwrecks and aircraft.
The Scottish Government designate marine protected areas (MPAs) under the Marine (Scotland) Act 2010. Historic Environment Scotland advise Scottish Government.

Public authorities must take account of preservation objectives of Historic MPAs in their decisions.

Within a Historic MPA it is a criminal offence to:

- intentionally or recklessly remove, alter or disturb marine historic assets
- carry out activities which could damage or interfere with a marine historic asset
- carry out activities which could significantly impact the Historic MPA and hinder its 'preservation objectives'

Controlled Sites and Protected Places

The Ministry of Defence (MoD) administers Controlled Sites and Protected Places. These sites are designated under the Protection of Military Remains Act 1986. All military aircraft are automatically designated under this legislation, while vessels that were sunk while in military service have to be specifically identified and designated.

Protected Places are the remains of any aircraft lost in military service and specific vessels which have been designated under the Act that sank or were stranded in military service after 4 August 1914. Divers may visit a Protected Place on a 'look but don't touch' basis.

Controlled Sites cover areas where the remains of military aircraft or vessels have sunk or been stranded in military service within the last 200 years. This can include non-UK vessels and aircraft if the remains are in the UK or UK territorial waters. Divers are prohibited from visiting Controlled Sites without a license from MoD.

In both Controlled Sites and Protected Places, it is an offence to:

- undertake salvage operations or excavation
- tamper with, damage, remove or unearth any remains
- enter any hatch or opening

Courtesy of Historic Environment Scotland (Dr Colin and Dr Paula Martin collection).

The Duart Point Historic MPA protects the remains of a small warship, probably the Swan, sent in 1653 by Oliver Cromwell as part of a Commonwealth flotilla of ships to capture Duart Castle, at the southern entrance to the Sound of Mull. This is arguably one of Scotland's best preserved and most significant historic wrecks.

The MPA site documentation states that fishers should avoid using creels within the protected area as there is a risk of snagging creel lines on exposed anchors/cannon, and potentially of destabilising sediment deposits. Furthermore, a Marine Conservation Order prohibits use of bottom trawling gear to support conservation objectives in relation to common skate in the Nature Conservation MPA that surrounds the wreck.

Dangerous wrecks

The Maritime and Coastguard Agency (MCA) administers dangerous wrecks. These sites are designated under section 2 of the Protection of Wrecks Act 1973. There are currently no designations in Scottish waters. It is an offence to enter a prohibited area without permission from MCA.

Scheduled monuments and listed buildings

Historic Environment Scotland designates scheduled monuments and listed buildings following the processes set out in their Designations Policy and Selection Guidance.

The Ancient Monuments and Archaeological Areas Act 1979 is the legislation for scheduled monuments. Scheduling is primarily used for monuments on land and around the edge of water bodies, but it also applies to sites that are fully under water.

The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 is the main legislation for listed buildings. Any structure above the low water mark can be listed. Many listed buildings have underwater components – common examples are bridges, lighthouses and harbours.

World Heritage Sites

World Heritage Sites are designated through the United Nations Educational, Scientific and Cultural Organisation's (UNESCO) World Heritage Convention (1972).

World Heritage Sites are considered to have Outstanding Universal Value. UNESCO defines Outstanding Universal Value (OUV) as being 'cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity'.

National Planning Framework 4 and the National Marine Plan both give policy protection to OUV. Managing Change in the historic environment: World Heritage gives advice on how to assess impacts on OUV.

FURTHER INFORMATION –

INTERNATIONAL CONVENTIONS

International conventions such as the European Valletta Convention and the European Landscape Convention require a responsible approach to the management of the historic environment including underwater heritage.

The UK has not ratified the 2001 UNESCO Convention on the Protection of Underwater Cultural Heritage, but the Annex to the 2001 Convention – Rules Concerning Activities Directed at the Underwater Cultural Heritage provides an accepted model of 'best practice' for underwater archaeology.

CANALS

Scottish canals are an important part of Scotland's national and local identity. Most parts of Scotland's canal network are protected as scheduled monuments and scheduled monument consent is required for a range of activities including inserting drainage outflows or underground services. You can find out whether a canal is scheduled by searching Trove.scot. Scottish Canals also have further information on canals and how they are protected and managed.

Blackness Castle is a scheduled monument in the Firth of Forth. The Forth Bridge, which is in the background of this image, is a World Heritage Site.

PERMISSIONS AND CONSENTS

There are many forms of permissions and consents that may be required depending on the type of development planned and the level of protection afforded to affected underwater heritage sites.

Historic Environment Scotland are the decision-maker for scheduled monument consent and are an advisor in other processes.
Our Regulatory Framework outlines Historic Environment Scotland's responsibilities and approach to its regulatory and advisory services in the planning and other consenting systems.
The Planning Service Standard provides further information on how Historic Environment Scotland engages with the planning system.

Marine licensing

The statutory marine planning system is covered by the Marine (Scotland) Act (2010) and the Marine and Coastal Access Act (2009). The Acts aim to sustainably manage marine resources with a range of powers to protect marine biodiversity and heritage.

Marine licensing is an important way of permitting activity whilst protecting the environment, human health and legitimate uses of the sea. Marine licenses are required for all licensable marine activities as outlined in the Marine environment: licensing and consenting requirements factsheet.

Heritage consents

In both terrestrial and marine environments, specific permissions are required for activities in certain designated sites and places.

Scheduled monument consent is required for works to scheduled monuments. It is an offence to undertake works without scheduled monument consent, or to damage the monument in any way. Consent is required for metal detecting and certain geophysical surveys. Historic Environment Scotland's website has more information on scheduled monument consents.

Listed building consent is required from planning authorities for works to listed buildings. Consent is required to demolish, alter materially or extend a listed building. You can find out more in the Guidance on the Principles of Listed Building Consent.

For Historic MPAs, public authorities with responsibilities for issuing any type of authorisation must take preservation objectives for the area into account and seek advice from Historic Environment Scotland.

Permission from the MoD is required in relation to protected military remains.

Development consents

The Scottish Government's Marine Directorate administer marine licensing for many development-related activities.

In addition to this:

- in harbour areas, specific consents may also be required from the statutory harbour authority.
- in Shetland and Orkney, the local authority also regulates certain local activities through works licenses.
- in lochs and rivers, and for marine aquaculture, planning permission is the main process for consenting development.
- Applications for offshore electricity generation require consent under Section 36 of the Electricity Act 1989. The Planning Circular 1/2015 gives further information about roles for regulating renewable energy developments.

Some applications for planning permission or marine licenses will require Environmental Impact Assessment (EIA). This helps ensure that there is early consideration of impacts on underwater heritage where projects fall within the scope of the EIA requirements.

If you are unsure about requirements you should contact the relevant decision maker.

PERMISSION FROM OWNERS

Different types of owner permission are needed depending on the planned activity and its location. In freshwater areas permission is usually required from the landowner. In the marine environment, the Crown Estate Scotland manages around half of the foreshore and seabed, and their permission is required. The Crown Estate consists of assets owned by the Monarch 'in right of the Crown'. Figure 1 shows the different ownerships across freshwater and marine environments.

Wrecks and material recovered from wrecks on the seabed may still have an owner. This ownership is investigated by the Receiver of Wreck (RoW) in most cases.

Wrecked naval warships, state vessels, aircraft and associated artefacts have protection through Sovereign Immunity as outlined in the guidance Protection and Management of Historic Military Wrecks outside UK Territorial Waters. It is UK Government policy that no artefacts should be recovered from UK military wrecks without the written permission of the MoD.

The seabed in the area 12-200 nautical miles offshore is ownerless, but the UK holds sovereign rights over this zone.

A seabed lease is just one of the permissions that was needed for the Robin Rigg Wind Farm.

PART 3:
IMPACTS ON UNDERWATER HERITAGE

It is important to understand impacts on underwater heritage and its cultural significance for proposed developments and extraction operations in marine and freshwater environments.

The Historic Environment Policy for Scotland outlines the approach decision-makers should use to manage these impacts when considering proposals.

This section sets out how to apply this approach to underwater heritage:

- understand the historic environment
- identify the potential change
- assess the level of impact
- make decisions about the impact
- monitor the impact

UNDERSTANDING THE HISTORIC ENVIRONMENT

In order to understand the historic environment you should aim to:

- understand and analyse the historic environment, context, asset or place
- understand the cultural significance of any affected assets or places

Finding out about underwater heritage

Many wrecks are known about from historic sources, but the actual sites still await discovery. Given the low level of awareness and knowledge, the challenges of gaining access, and the generally higher costs of conducting work underwater, we know less about our underwater heritage than we do about heritage on land.

The following key sources may provide information about underwater heritage:

- Trove.scot includes information on known sites and recorded maritime and aviation losses.
- Local authority Historic Environment Records (HERs) contain detailed records of local known archaeological sites, including underwater heritage. Some local authority HERs are available through PASTMAP.
- The UK Hydrographic Office provides marine data on global wrecks and obstructions.
- Lloyds Register Foundation provides information on ship plans and surveys.
- The Scottish Archaeological Research Framework (ScARF) includes general information on current underwater heritage research, including case studies.

A small number of Scotland's underwater heritage sites are currently recognised by statutory designations. It is important to be aware of these designated sites, and of any legal restrictions that apply.

The following resources can help you find out more:

- Trove.scot provides information on historic marine protected areas (Historic MPAs), scheduled monuments and listed buildings.
- National Marine Planning interactive (NMPi) provides a map-based information source to assist with marine planning. NMPi includes a layer of information on protected military remains, including disposal sites for historic munition.

Information gathering

As part of the initial information-gathering process, developers should seek advice from appropriate archaeological advisors on the potential impacts the development may have on underwater heritage sites.

You should also contact:

- Local authorities for developments in freshwater and on the foreshore and for advice on listed buildings
- Historic Environment Scotland for scheduled monuments and Historic MPAs
- The MoD for protected military remains

Studies should assess the likely level of impact of proposals on underwater heritage and should be done at the outset to inform the project going forward.

This should include:

- information on the proposed operations
- the cultural significance of any known underwater heritage sites likely to be affected
- the potential for unexpected discoveries to occur
- the environmental impacts that may disrupt the setting of underwater heritage assets

There are opportunities to use information gathering to help protect the historic environment as part of our wider environment. For example, long-term monitoring can help us to understand impacts on underwater heritage including changes caused by the climate and nature crises.

Due to rising sea levels since the end of the last Ice Age, some former coastal areas that were suitable for human occupation during prehistory are now under water. In sheltered and sediment-rich areas such as the Solway Firth, remains of these submerged prehistoric landscapes may survive, extending from the foreshore to shallow inshore waters, and, in some instances, offshore.

Our understanding of submerged landscapes in Scotland is very poor. Remains are recorded on the foreshore and a small number of isolated finds have been made underwater in Shetland and the northern North Sea.

Field investigation

Field investigations are sometimes necessary to fully assess likely impacts. This is often the case in large development projects, for example those involving environmental assessment.

Developers and their archaeological advisors should look for opportunities to integrate underwater heritage when planning investigations of other topics, such as biology. Useful geophysical and geotechnical survey data can often be gathered once, then used many times, by following the relevant technical guidance. Unexploded Ordnance (UXO) surveys can also be useful to archaeologists.

Sharing information

Information gathered from studies and field investigations helps to improve our understanding of underwater heritage. It is important to submit investigation results to improve the quality of information held in national and local databases. Developers and their archaeological advisors should report the results of their survey work through OASIS (Online Access to the Index of Archaeological Investigations).

The Marine Environmental Data Information Network (MEDIN) is working to improve access to and stewardship of marine data. Historic Environment Scotland is an accredited MEDIN Data Archive Centre. If you would like to contribute, please contact archives@hes.scot for information and guidelines.

Identifying potential changes

Underwater environments are subject to continuous change. Degradation of our underwater heritage occurs over time due to complex interplay of natural and human factors.

Degradation rates of underwater heritage may depend on:

- the nature of the heritage asset, for example the type and construction of a vessel or aircraft
- environmental influences such as biological, chemical or physical factors
- cultural influences, such as human interventions – for examples see Figure 2 below

Some of these degradation rates are increasing as a result of the climate and nature crises.

Figure 2 gives examples of some human interventions that have the potential to result in impacts on underwater heritage.

Historic Environment Scotland staff surveying Culbin Sands, Forres.

Figure 2: Interventions by operation type and terrestrial and marine areas.

Operation	Freshwater area	Coast-edge	Intertidal zone	Offshore
Extraction	• alteration to water courses • mineral extraction	• alteration to water courses • sand, gravel and mineral extraction	• sand and gravel extraction	• capital dredging • aggregate extraction • dumping at sea
Construction (site specific)	• transport infrastructure • dams and reservoirs • hydro-electric power	• housing • transport infrastructure, for example, bridges, causeways • ports and harbours	• ports/ harbours/ marinas • aquaculture • transport (causeways/ bridges) • some wave energy technologies	• energy installations – for example, marine and offshore wind renewables • carbon capture storage
Construction (linear)	• flood protection • cables/pipe-laying	• embankments • cable/pipe-laying • coastal defences	• coastal defences • hard landscaping • cable/pipe-laying	• cable/pipe-laying
Fisheries and aquaculture	• aquaculture operations		• shellfish collection • fixed netting • aquaculture operations	• static gear • mobile gear – for example demersal trawling/ nephrops and scallop dredging • aquaculture operations
Diffuse activities	• recreation and tourism • archaeological excavation • boat-wash • water fluctuations caused by reservoirs • wastewater/ sewerage/ agricultural run-off • conservation/ biodiversity works	• boat-wash • managed retreat • recreation and tourism • metal detecting • beach combing • archaeological excavation • conservation/ biodiversity works	• managed retreat • recreation and tourism • metal detecting • beach combing • archaeological excavation • conservation/ biodiversity works	• certain types of dumping at sea • salvage • metal detecting • beach combing • archaeological excavation • water ballast transfer • recreation and tourism, especially recreational diving • anchoring/ moorings • conservation/ biodiversity works

ASSESSING LEVELS OF IMPACT

Impacts can be direct or indirect. Direct impacts are where an activity directly interacts with the asset or place, such as by removing or altering it.

Indirect impacts can be:

- associated changes to the environment as a result of the activity, this could include alterations to water quality or levels
- impacts to the asset from activities nearby, for example, exposure of a wreck due to changes in sedimentation caused by a nearby development

The level of impact will not normally be quantifiable so it is often best to take a narrative approach. Assessing it will require professional judgement. The level of impact will be influenced by the cultural significance of the asset, the degree of change, the duration of the impact and the likelihood of the impact. The Environmental Impact Assessment Handbook has more information on this.

Scoping studies at an early stage can be useful to identify all the necessary work that will need to be undertaken to meet regulatory requirements. This is often best achieved by contracting suitably experienced heritage consultants.

Precautionary principle

If there is no way of being confident about what the impact of an action will be, then the best way to stop damage is to avoid the action. This is referred to as the precautionary principle. Unexpected discoveries or impacts that occur late in a project can have significant implications for costs and timescales.

In 2008 dredging at the north entrance to Lerwick Harbour removed 2 metres of sandy material from the seabed at a depth of 7-9 metres under water. Amongst this was a substantial amount of bark-covered wood (birch). Samples of the wood were dated to around 5600 BC, suggesting the potential survival of a drowned early Neolithic landscape in Bressay Sound.

Capital dredging projects that involve removal of large amounts of previously untouched seabed sediment from areas of high potential, should pay particular attention for any unexpected discoveries that might arise and put in place protocols for reporting finds.

MAKING A DECISION

Managing impacts

You should adopt a staged approach when managing impacts on underwater heritage. This follows the principles of the mitigation hierarchy.

In this hierarchy:

- The preferred option is to avoid impacts.
- Where avoidance is not possible any impacts should be reduced or minimised.
- If it is not possible to reduce impacts further, then compensatory and offsetting measures should be explored.

Avoiding impacts

Avoidance should be the primary objective when dealing with designated sites and places, as well as undesignated sites of equivalent cultural significance. This is in line with the principle of preservation in situ for heritage assets. Most known underwater sites are small and discrete, so it is normally possible to avoid direct impacts through careful planning.

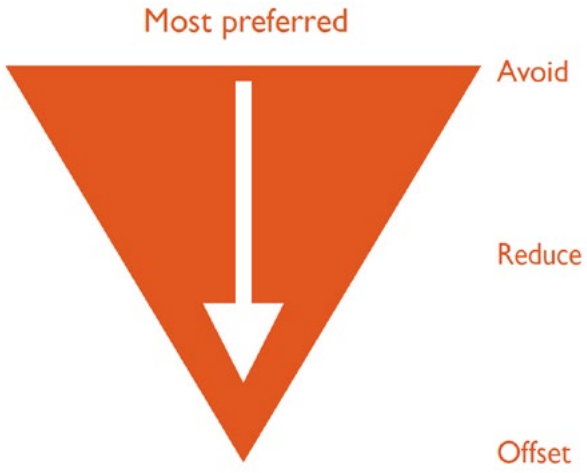


Figure 3: mitigation hierarchy triangle

FURTHER INFORMATION –

WRITTEN SCHEME OF INVESTIGATION (WSI)

Where mitigation is necessary, the design and implementation of mitigation should be set out in a written scheme of investigation (WSI). The WSI should make provision for adequate monitoring of mitigation, together with appropriate and timely reporting and archiving of results. The Crown Estate's publication Model Clauses for Archaeological Written Schemes of Investigation gives an example of acceptable industry standards for WSIs.

UNKNOWN SITES

Many sites under water remain to be discovered. Developers should consider the potential for unexpected discoveries to occur during development.

Where potential exists, a Protocol for Archaeological Discoveries (PAD) should be adopted as part of a WSI. This should set out a contingency plan for dealing with and reporting accidental discoveries. Crown Estates has sector specific guidance on PADs for offshore renewable projects. Elements of this guidance may be useful to other sectors when considering the adoption of a PAD.

Recovery of artefacts needs to be reported and addressed as per the Laws Relating to Finds section of this document. In freshwater environments, discoveries of previously unknown sites and artefacts should also be reported to the local authority archaeologist. In marine environments, recoveries should be reported to the Receiver of Wreck.

Reducing impacts

Negative impacts should be avoided where possible, however there are instances where it is not possible to completely avoid impacts. Efforts should be made to reduce or minimise these. In the underwater environment, this can often be achieved through adapting the development area or altering the design or operational methodology to reduce impacts.

Practical examples include:

- introducing Archaeological Exclusion Zones (AEZs)
- micro-siting wind turbines
- altering routing of cables
- using equipment and monitoring to target interventions

In freshwater environments, you should consider the impact that any changes in water levels may have on a heritage asset. Small changes can greatly affect the level of preservation on some sites, especially if they are only partially submerged.

It is important that any impacts are monitored to ensure that the appropriate steps can be taken to respond to changes. This can be required through conditions applied to consents.

Scottish and Southern Electricity Networks (SSEN) Distribution use detailed desktop studies and marine route surveys to inform cable route selection and detailed route design processes to avoid sites of historical interest where possible. Where the potential for subsea archaeology exists, a Protocol for Archaeological Discoveries may be implemented during project execution.

Image courtesy of Scottish and Southern Electricity Networks (Distribution) Subsea team.

Compensatory and offsetting measures

There may be some circumstances where it is not possible to avoid or reduce impacts. In these instances, efforts should be made to identify compensatory measures that try to recompense the adverse effects of the proposed change as part of the project proposal.

Compensatory measures are only taken into account by a decision maker once a decision about consent is made and some degree of loss has been accepted. The decision maker will decide if the proposed measures have a benefit for the historic environment.

A programme of archaeological works can record an asset to help offset its physical loss. This work should record the cultural significance of the asset by assessing it as a potential source of archaeological data.

It will generally include:

- geophysical surveys
- excavation
- data analysis
- knowledge sharing through reporting and creating interpretation boards or online resources

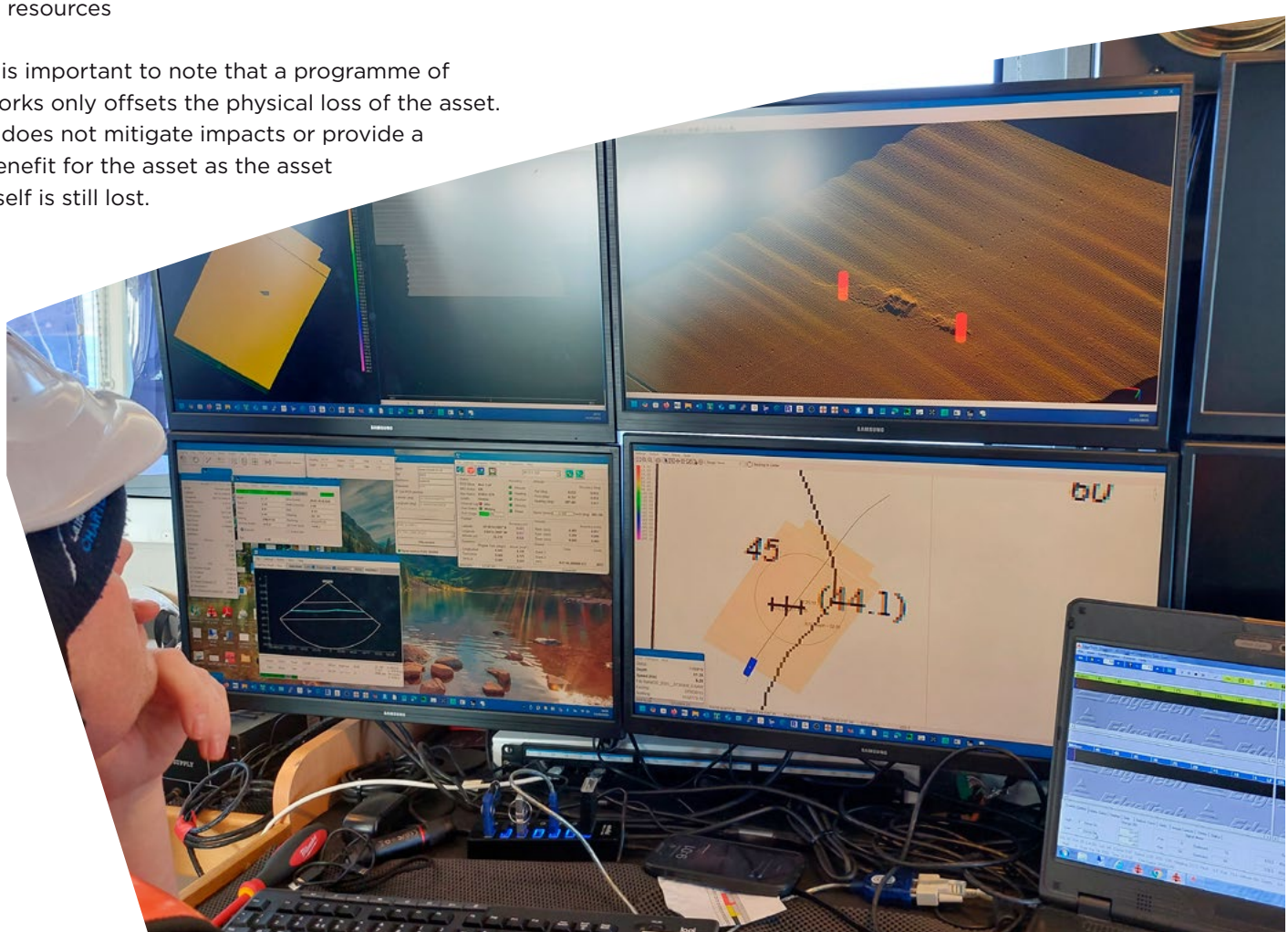
It is important to note that a programme of works only offsets the physical loss of the asset. It does not mitigate impacts or provide a benefit for the asset as the asset itself is still lost.

MONITORING

Where appropriate, measures for the monitoring of mitigation measures and the proposal should be presented to ensure that mitigation is enacted effectively and that the actual impacts are consistent with the predicted impacts.

Monitoring of underwater heritage contributes information that can be useful both to archaeologists and to biologists. This could include the distribution of Priority Marine Features, and presence of invasive species due to the climate and nature crises.

On-site processing of multi beam echo sounder (MBES) survey datasets of the wreck of SS Eagle, Whiting Bay, Arran. This survey included both MBES and sidescan sonar data recovery over the wreck position which had been reported to HES by recreational divers in summer.



PART 4: EXPLORATION, INVESTIGATION AND DISCOVERIES

This section sets out relevant information for activities that are directed at or may impact underwater heritage such as archaeological excavation and commercial salvage. This includes the added value underwater heritage can bring to these activities.

It covers:

- the principle of preservation in situ
- excavation and recovery
- recreational activity including scuba diving
- commercial fisheries

EXPLORATION, INVESTIGATION AND DISCOVERIES

Archaeological excavation and commercial salvage are activities which are directed at underwater heritage. That means, they have underwater heritage as their primary objective.

The 'Rules concerning activities directed at underwater cultural heritage', which are laid out in the Annex of the 2001 UNESCO Convention on the Underwater Cultural Heritage, provide an accepted model of best practice for regulating these activities in Scotland through marine licensing and other types of consents and permissions.

Preservation in situ

Preservation in situ should be the first option for designated sites. This accords with Rule 1 of the Annex, which states: 'The protection of underwater cultural heritage through in situ preservation shall be considered as the first option.'

You should also consider preservation in situ as the first option when dealing with:

- undesignated sites that have equivalent significance to designated sites
- sites that meet the UNESCO definition for underwater cultural heritage by virtue of having been underwater for more than 100 years
- other sites which make a positive contribution in terms of cultural significance

Preservation in situ recognises the importance of the interplay between an archaeological site under water and its story and context. It also recognises that heritage sites are a finite resource.

In many cases underwater heritage is preserved in a stable condition under water. The process of excavating and recovering artefacts can yield important information but can also be destructive. Without recording and conservation of artefacts, this information is often lost or destroyed.

Advances in technology, including remote sensing and photogrammetry, mean that an excellent standard of recording can often be achieved without disturbing underwater heritage. Advances are also being made to support long-term in-situ preservation of underwater heritage.

Excavation and recovery

While preservation in situ should be considered the first option, there may be situations where it is not possible - or in some instances, not proportionate. In such circumstances, excavation and recovery of artefacts may be justified, and could help protect significant elements of a site. The least amount of intervention is preferred.

Such situations include where:

- there are wider benefits of removal such as to address a pollution hazard
- interventions make a significant contribution to knowledge and enhancement, considering existing research agendas and collections in registered museums
- preservation in-situ is no longer an option, even in the short or medium term due to natural degradation of the asset or wider environmental threats

In many cases the justification for excavation will be a combination of reasons but in exceptional cases, a contribution to a single factor may be sufficient.

When excavation and recovery is necessary it should be consistent with the written scheme of investigation (WSI) as outlined in the managing impacts section of this guidance.

Items of wreck recovered through archaeological excavation or salvage must be reported to the Receiver of Wreck (RoW).

Excavation and recovery of the late Bronze Age, Carpow log-boat from the Tay Estuary near Perth.

FURTHER INFORMATION – APPLYING FOR PERMISSIONS

The Rules set out in the annex of the convention are a relevant consideration for applications such as:

- scheduled monument consent on underwater scheduled monuments in coastal waters
- marine licensing applications related to recovery of artefacts or vessels that are over 100 years old
- works within Historic MPAs

Applicants should therefore follow the Annex of the 2001 convention. This means that projects should prepare an appropriate project design setting out how the Rules are being followed.

RECREATIONAL ACTIVITY

The public can be instrumental in discovering many underwater heritage sites. Responsible access to Scotland's underwater heritage can be beneficial and is encouraged.

Scuba divers

Recreational scuba divers should follow established codes of conduct such as UNESCO's Code of Ethics for diving on underwater cultural heritage sites and the British Sub-Aqua Club (BSAC), Professional Association of Diving Instructors (PADI) and Sub-Aqua Association's (SAA) Respect Our Wrecks code for wreck divers.

This includes:

- being aware of the protected status of underwater sites
- exploring sites where allowed, without damaging or disturbing them
- taking photographs not souvenirs
- reporting any items of wreck that are recovered to the RoW

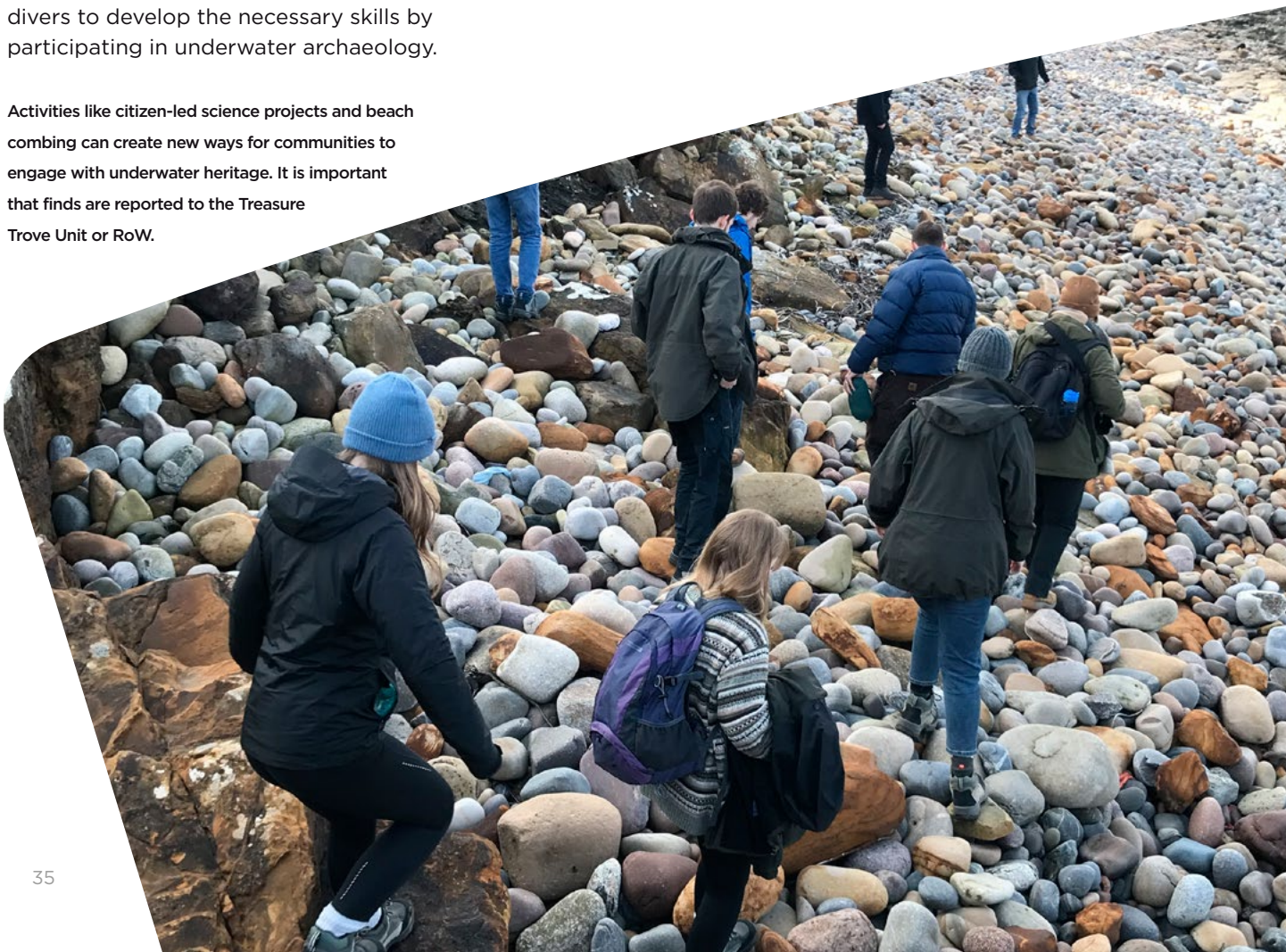
Training schemes such as those run by the Nautical Archaeology Society help recreational divers to develop the necessary skills by participating in underwater archaeology.

Other recreational activities

Local heritage groups and trusts play a key role in improving access to our underwater heritage by providing information on how it has shaped their community's local identity and culture.

Different forms of access can be provided for those who cannot visit these sites in person. These include archives, museums, and online engagement such as films, videos, blogs or other types of virtual access.

Intangible cultural heritage, such as local knowledge and storytelling, also helps bring to light the stories linked to our underwater heritage.



Activities like citizen-led science projects and beach combing can create new ways for communities to engage with underwater heritage. It is important that finds are reported to the Treasure Trove Unit or RoW.

COMMERCIAL FISHERIES AND FISHERS

Commercial fishers make many important discoveries. However, the presence of underwater heritage can pose a hazard to fishers, who risk damage to gear if it snags on underwater sites. There can also be damage to underwater heritage. This is a particular risk for fishing techniques that use mobile bottom gear – like demersal trawling and scallop dredging.

Fishers should report any archaeological discoveries. Information sharing helps fishers to avoid known underwater heritage sites, by helping to ensure that protected sites appear on admiralty charts. It is also important to work with inshore fisheries bodies to foster collaboration.

Fishers must observe operational advice within designated Historic MPAs and consider whether there are other restrictions in place. For example, marine conservation orders may restrict or prohibit certain types of fishing activity.

KEY REFERENCES

INTERNATIONAL CONVENTION

Valletta Convention
European Landscape Convention
Annex of the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage

LAW AND REGULATIONS

Marine (Scotland) Act 2010
Protection of Military Remains Act 1986
Ancient Monuments and Archaeological Areas Act 1979
Planning (Listed Buildings and Conservation Areas)(Scotland) Act 1997
Protection of Wrecks Act 1973
Wreck and salvage law

NATIONAL POLICY AND PLANS

UK Marine Policy Statement
Historic Environment Policy for Scotland
National Planning Framework 4 (NPF4)
Scotland's National Marine Plan
Designation Policy and Selection Guidance
Scotland's Blue Economy Vision

HISTORIC ENVIRONMENT SCOTLAND PUBLICATIONS

Our Regulatory Framework
Managing Change: Setting
Scotland's Historic Marine Protected Areas
Scheduled Monument Consents Policy
A guide to Climate Change Impacts
Historic Environment Guidance for Wave and Tidal Energy
Climate Action Plan

GUIDANCE AND PROTOCOLS

Planning Circular 1/2015: relationship between the statutory land use planning system and marine planning and licensing
Crown Estate – Model Clauses for Archaeological Written Schemes of Investigation
Marine aggregate dredging and the historic environment guidance note
Marine Aggregate Industry Protocol for the Reporting of Finds of Archaeological Interest
Marine geophysics data acquisition, processing and interpretation

OFFSHORE RENEWABLES GUIDANCE

COWRIE historic environment offshore renewables guidance
COWRIE Geotechnical guidance for the renewables sector
Protection and Management of Historic Military Wrecks outside UK Territorial Waters
Protocols for Archaeological Discoveries: Offshore Renewables Projects

CODES OF PRACITICE

JNAPC Code of Practice for Seabed Developers
UNESCO Code of Ethics for Divers
Nautical Archaeology Society
BSAC Respect Our Wrecks code

DATA SOURCES AND RESEARCH

The Scottish Historic Environment Records Forum
Dynamic Coast Cultural Heritage Report Card
Marine Environment Data and Information Network (MEDIN)
Marine Climate Change Impacts Partnership Cultural Heritage Review
Scottish Archaeological Research Framework

Historic Environment Scotland is the lead public body established to investigate, care for and promote Scotland's historic environment.

We are committed to ensuring this publication is accessible to everyone. If you need it supplied in a different format or language including Gaelic, please get in touch.

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

Historic Environment Scotland
Longmore House,
Salisbury Place
Edinburgh EH9 1SH
0131 668 8600
historicenvironment.scot

Historic Environment Scotland – Scottish Charity No. SC045925
Registered Address: Longmore House, Salisbury Place, Edinburgh EH9 1SH

Cover image: Historic Enviornment Scotland staff inspecting a marine wreck in Traigh Cill an Rubha, Islay.