

Historic Environment and Climate Change in Wales

Sector Adaptation Plan Actions and Activities 2020



Historic Environment Group

Climate Change Subgroup

December 2020

Overview



The Deputy Minister for Culture, Sport and Tourism, Lord Elis-Thomas on 18 February at the launch of the Historic Environment and Climate Change in Wales Sector Adaptation Plan.

In February 2020, the Historic Environment Group (HEG) published the Historic Environment and Climate Change in Wales Sector Adaptation Plan (SAP) (available [here](#)) to help raise awareness of the risks and opportunities of climate change for the historic environment of Wales and the need for adaptation. In Section 6 of the SAP there are a series of headline actions with intended outputs and outcomes for the historic environment.

The main objective of the SAP is to encourage collaboration and action. We are now collecting evidence of adaptation activity relevant to the historic environment to help us evaluate our progress against the published actions, also to identify gaps and priority areas that require further attention.

The evidence collected will help us to prepare a report in January 2021 for Welsh Government, HEG and the Historic Environment Sector. We hope the report will encourage further collaboration with other sectors.

We hope that you can help us collect evidence.

How you can help

The table below sets out the headline actions published in Section 6 of the SAP with their intended outputs and outcomes for the historic environment. Each action has a reference number and there are 22 in total. The activity column of the table gives examples of current known work and activity to meet each action.

We would like you to share with us examples of further activity relevant to the actions that you are involved in or know about, this may be several entries or just one or two. It can also be used as an opportunity to update progress on existing entries.

You can submit an example or examples of activity [here](https://survey123.arcgis.com/share/206d7963786646c58244e85768ce6ce2)
<https://survey123.arcgis.com/share/206d7963786646c58244e85768ce6ce2>

Submissions are welcomed and encouraged from organisations, community groups and societies operating in Wales. Please share this request for evidence. **The consultation will close at 14:00 on 18 January 2021.**

Thank you on behalf of the HEG Climate Change Subgroup.

The HEG Climate Change Subgroup is charged with assessing and reporting to HEG on how the historic environment sector in Wales should address the challenge of climate change.



Cover photograph: Excavation at the eroding coastal hillfort of Dinas Dinlle in 2020. The excavation was undertaken by Gwynedd Archaeological Trust for the CHERISH – Climate Change and Coastal Heritage European-funded Ireland-Wales project. © Gwyn & Rhian Parry.

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Actions and activity table

The table below sets out the headline actions needed to adapt to the impacts of climate change on the historic environment of Wales. They are arranged around the three overarching and linked objectives of increasing our knowledge, increasing our capacity and building our resilience, and are grouped under the following seven headings:

1. Knowledge exchange and collaboration
2. Mapping and monitoring
3. Research priorities
4. Dissemination and promotion
5. Collaborative working
6. Training and guidance
7. Taking action

Examples of current known work are provided in the activity column. Details of any abbreviations and links to resources in the text can be found at the end of the document.

Knowledge: Increase our knowledge and understanding of the threats and opportunities for the historic environment from a changing climate				
Action no.	Description of the action	Output(s) from the action	Broad outcome/impact	Activity
1. Knowledge exchange/collaboration				
1.1	Dissemination, promotion and stakeholder engagement of the Historic Environment and Climate Change Sector Adaptation Plan. For example: <ul style="list-style-type: none"> • Communication Strategy. • Stakeholder engagement with politicians and senior decision-makers. • Monitor and evaluate strategy. 	<ul style="list-style-type: none"> • Publication of the Historic Environment and Climate Change Sector Adaptation Plan. • Secured resources and practical actions to deliver the plan. 	<ul style="list-style-type: none"> • Raised awareness of the challenges posed by climate change on the historic environment. • Direct action to improve our knowledge, build capacity and increase the resilience of the historic environment to climate change. • Provision of a strategic framework to take forward adaptation actions. 	<ul style="list-style-type: none"> • HEGS - SAP launched at HEG Feb 2020. • HEGS - SAP Published on Cadw website Feb 2020 and sent to key stakeholders. • HEGS - Press release, social media posts, article in Heritage in Wales Feb/March 2020. • HEGS - Activity log created to record dissemination and promotion. • HEGS - Action Plan activity stakeholder engagement initiated through HEG June 2020. • HEGS - Monitoring and Evaluation Framework devised March-November 2020. • BBNPA - SAP shared with senior management to inform National Park Management Plan 2021-2025. • PCNPA - SAP incorporated in Archaeology Action Plan, shared to contribute to the Climate Change Action Plan. • NLHF - SAP is signposted in the NLHF Environmental Guidance. • NT - SAP shared across NT and Fit for the Future environmental network.
1.2	Establish a knowledge exchange group(s) for researchers and practitioners to share ideas, information and good practice, and to help identify future research and funding opportunities in Wales. For example: <ul style="list-style-type: none"> • Establish a climate and heritage management group. • Establish a spatial mapping group. 	<ul style="list-style-type: none"> • Knowledge exchange group(s) established and active. • Identification of future research priorities for Wales. 	<ul style="list-style-type: none"> • A coordinated approach, maximising knowledge and resources, leading to capacity building and more successful adaptation. 	<ul style="list-style-type: none"> • HEGS, WATs, Cadw - Climate Change Project Scoping Meeting December 2019 to discuss Cadw WAT funding for climate change projects. • SNPA. Welsh Peatlands Sustainable Management Scheme funded full time Research Hub Coordinator (Swansea University) to build research capacity and identify research priorities (see 3.1).
1.3	Participation from Wales in established UK and wider climate heritage groups and networks. For example: <ul style="list-style-type: none"> • Fit for the Future network. • Historic Environment Adaptation working group. • Climate Heritage Network. 	<ul style="list-style-type: none"> • Welsh attendance at climate heritage groups and networks. 	<ul style="list-style-type: none"> • Collaborative working maximising knowledge and resources, leading to capacity building and more successful adaptation. 	<ul style="list-style-type: none"> • HEGS - Members are linked/part of Fit for the Future, HEAWG and Climate Heritage network. • NLHF - Members of the Heritage Sector Climate Change Forum (see 6.2).

Action no.	Description of the action	Output(s) from the action	Broad outcome/impact	Activity
2. Mapping and monitoring of the resource				
2.1	<p>Improving baseline data. Develop standardised methodologies and assessment tools to both identify historic assets and prioritise those at risk. For example:</p> <ul style="list-style-type: none"> Wales spatial mapping work including environment/asset specific mapping and analysis. Data enhancement programmes. Use of soil moisture indexes to target aerial reconnaissance during dry periods. 	<ul style="list-style-type: none"> Improved baseline data sets. Improved consistency and comparability of data. Publicly available and regularly updated central repository of spatial mapping datasets. 	<ul style="list-style-type: none"> Improved understanding of the threats and opportunities for the historic environment from a changing climate. Improved evidence base for monitoring, statutory protection, decision-making and adaptation strategies. 	<ul style="list-style-type: none"> RCAHMW - Pilot spatial mapping projects during development of SAP. RCAHMW and partners - CHERISH project targets Welsh Islands to improve baseline data through lidar and ground survey and use of UAVs, GNSS and terrestrial laser scanning for condition monitoring at coast edge and intertidal sites (see 2.2, 3.1-2, 6.3,7.3-4). RCAHMW - Met Office soil moisture indexes purchased annually for targeted aerial reconnaissance programme. NRW - Method for inputting historic advice on heritage features within Forest Resource Plan process agreed. Cadw - Testing grassland restoration and management techniques on 3 damaged scheduled monuments; Tym Barlwm, Caerphilly from wildfires 2018. Castell Tinboeth, Llananno, Powys, severe drought. Skirrid Fawr, Monmouthshire, with NT, erosion by stock and visitors. SNPA - Tomen y Mur motte mound archaeology management seeking to increase water retention to protect covering sward. WATs – scoping to establish climate change priorities within WAT regions to inform investigative work programmes. SNPA – Carneddau Landscape Partnership Scheme includes high resolution lidar for large areas; lidar data server for citizen science project; training for public use of lidar; mapping and ground recording of archaeological and other features through citizen science (see 2.2, 3.1-3, 6.2, 7.1-5). SNPA - UAVs for condition baseline recording of prehistoric cairns. SNPA - Carneddau Landscape Partnership Scheme Lost Farmsteads project recording names of existing and extant Ardudwy agricultural buildings, includes volunteer and community training days. SNPA/University of Sheffield, annual landscape surveys at Bron Aber and Dyffryn Dysynni. PhD work - N.Wales early fields (Emily La Trobe-Bateman), climate change and the historic environment (Isabel Cook). NT/Oxford University - developing property climate risk scoring and reporting, producing “report cards”. NT - Liaising with Met office on accessing climate data and guidance.
2.2	<p>Establish and implement targeted monitoring regimes on identified historic assets. For example:</p> <ul style="list-style-type: none"> Develop and publish case studies to outline different monitoring approaches to ensure consistency of data and approach. Establish online/mobile application to record incidents/ impacts e.g. of pests and disease. Establish a link to scheduled monuments and listed buildings at risk monitoring work. 	<ul style="list-style-type: none"> Targeted monitoring programme and condition data. Best-practice guidance document/technical notes for monitoring assets at risk drawing on case studies. 	<ul style="list-style-type: none"> Improved understanding of the threats for the historic environment from a changing climate. Provision of data for historic assets to assist the development of management strategies and prioritisation. 	<ul style="list-style-type: none"> RCAHMW and partners - CHERISH project monitoring on 13 coastal sites using UAV and ground survey. Case studies and approach published in 2020/21 (see 2.1, 3.1-2, 6.3,7.3-4). PCNPA - Changing Coasts project using fixed point photography. Communities/public submit photographs at 16 specific coastal path points to monitor change and erosion (see 3.1-2, 7.3-4). SNPA/NT - Carneddau Landscape Partnership Scheme targeted monitoring of assets with volunteers and general public (e.g. fixed point monitoring) (see 2.1, 3.1-3, 6.2, 7.1-5). SNPA, NT, Cadw – Carneddau Landscape Partnership Scheme Scheduled Monument condition survey, establishing a method for volunteers, including for non-designated monuments. NT - initial risk monitoring at Tredegar, Bodnant Garden. Work with HEAWG UK on CCRA3 HE case studies.

Action no.	Description of the action	Output(s) from the action	Broad outcome/impact	Activity
3. Research priorities				
3.1	<p>Improve understanding of the interacting and cascading relationships, and cumulative impacts of climate risk factors. For example:</p> <ul style="list-style-type: none"> Building condition, location and socio-economic factors. Changing land use and redundancy of agricultural buildings resulting in a cumulative loss of historic landscape features and changed settings. Increases in invasive species that may impact on historic assets. Acidification of seawater and increase in marine species which pose potential threats to wrecks/timber structures in marine conditions. 	<ul style="list-style-type: none"> Reports and recommendations. 	<ul style="list-style-type: none"> Adaptive actions take inter-relationships and cumulative impacts into account, thereby minimising the potential for maladaptation, leading to improved management of historic assets and the creation of best-practice guidance. 	<ul style="list-style-type: none"> PCNPA: Changing Coasts project (see 2.2, 3.2, 7.3-4). SNPA - Carneddau Landscape Partnership Scheme Lost Farmsteads project (see 2.1). WATs - identify and prioritise targeted projects (see 2.1). RCAHMW and partners - CHERISH project monitoring on cumulative impacts and regional variations, now and in the past (see 2.1-2, 3.2, 6.3,7.3-4). Cadw - Appointment of funded Climate Resilience Embedded Researcher to investigate the risks and adaptation of buildings. AC-NMW - 1. Marine invasive species projects NS 56 American bivalves invading Welsh shores (Anna Holmes), NS 54 BRIGIT (Xylella project) species identification (Dr Mike Wilson), NS 19 Identifying and tracking the present, past and future of Britain's changing snail and slug fauna (Dr Ben Rowson). SNPA – Monument condition review (see 2.2). SNPA - Importance of palaeoenvironmental record and ecofacts vulnerable to climate change/conditions. HF funded Cyfoeth Ein Corsydd and Carneddau Peatland Science project (see 1.2). NT - Partnership discussions beyond heritage including commercial sector (e.g. Nestle/Ikea) to alleviate/mitigate flooding.

	<ul style="list-style-type: none"> Measures to address chronic and acute pollution from historic mining. Risks to building fabric from increased humidity, moisture, wind and driving rain, and the knock-on impact on indoor air quality and the health of building occupants. Cumulative impact of successive extreme weather events on historic assets. The frequency, range and potential regional variations of extreme weather events and their impact on the historic environment. 			<ul style="list-style-type: none"> NT - Making provision for staff, volunteers and visitors in more extreme weather – especially heat. NT - Challenge of adapting traditional spaces in low-cost, de-carbonised way (e.g. Tredegar House Brewhouse).
3.2	Research to improve knowledge of past and present climate change impacts on historic assets e.g. decay/erosion/accretion.	<ul style="list-style-type: none"> Research results, case studies and recommendations. 	<ul style="list-style-type: none"> Increased understanding of stages, timescales and outcomes leading to improved management and adaptation interventions to build resilience. 	<ul style="list-style-type: none"> RCAHMMW and partners - CHERISH project monitoring (see 2.1-2, 3.1, 6.3,7.3-4). PCNPA - Changing Coasts project (see 2.2, 3.1, 7.3-4). NRW, WATs and Cadw - Liaison day Oct 2020 Glasdir mine Coed y Brenin to look at erosion and site stability postponed (Covid) skype instead. WATs and partners - Fieldwork projects at coastal sites in Pembrokeshire and Gwynedd – Covid restrictions on fieldwork. SNPA/NT - Carneddau Landscape Partnership Scheme Skylines project raises awareness of montane heath, prehistoric cairns and the relationship between climate change, landscape, vegetation and human impact across millennia.
3.3	Improve understanding of the positive and negative effects of a longer growing season on the maintenance and management of the historic environment.	<ul style="list-style-type: none"> Report and recommendations. 	<ul style="list-style-type: none"> Improved long-term adaptation and maintenance programmes. 	<ul style="list-style-type: none"> SNPA/NT - Carneddau Landscape Partnership Scheme Skylines project strand (see 3.2). SNPA - Opportunities to contribute and feed results of Carneddau vegetation management and monument condition monitoring into studies. SNPA - Opportunities for partnership working e.g. our contacts with Henfaes research farm, Bangor Univ., and their medium and long term research on aspects of diverse aspects of land management including climate impacts.
3.4	Work with UKCP18 projections to identify opportunities for the historic environment and the economy e.g. planting of woodland and forestry; establishment of new industries relating to adaptation; changing leisure opportunities; increased use of UK coastal resorts.	<ul style="list-style-type: none"> Identification of opportunities. 	<ul style="list-style-type: none"> A combined beneficial response to adaptation will encourage uptake and identification of new opportunities, including tourism investment. 	<ul style="list-style-type: none"> NRW - Adaptation to climate change is embedded in NRW Forest Resource Plans to UK Forestry Standard and NRW's verification of Glastir woodland creation proposals. SNPA – Facilitating woodland planting by identifying areas of little risk to heritage assets and suitable in relation to historic landscape character.

Capacity: Develop the methodologies, tools and guidance to work with others and build adaptive capacity				
Action no.	Description of the action	Output(s) from the action	Broad outcome/impact	Activity
4 Dissemination and promotion				
4.1	Creation of a steering group to oversee the delivery of the HEG SAP and to monitor and review progress. The steering group will establish and coordinate working/subgroups as necessary.	<ul style="list-style-type: none"> Steering group formed from representatives within Wales. 	<ul style="list-style-type: none"> The provision of a strategic framework through which the action plan is delivered. 	<ul style="list-style-type: none"> HEGS - to take forward.
4.2	Creation of a dedicated (full-time equivalent) Climate Change Manager post for the historic environment sector in Wales.	<ul style="list-style-type: none"> Climate Change Manager in post. 	<ul style="list-style-type: none"> Direct action to help steer and guide the delivery of the HEG SAP and to play a central role in raising the profile of the climate change work across the historic environment sector in Wales. 	

Action no.	Description of the action	Output(s) from the action	Broad outcome/impact	Activity
5. Collaborative working				
5.1	The steering group to coordinate and encourage stakeholder engagement and promote partnership working to ensure efficient use of resources across sectors.	<ul style="list-style-type: none"> Cross-sector partnerships and coordinated working will ensure resources are targeted effectively and efficiently. 	<ul style="list-style-type: none"> Effective delivery of the HEG SAP actions. Raised awareness of the historic environment across the wider sector which will help prevent secondary damage and maladaptation to the historic environment. Improved cross-sector working. 	<ul style="list-style-type: none"> See 1.1 and 4.1. NRW, WATs and Cadw - MoU signed Feb. 2020 to raise awareness of the historic and natural environments and enhance cross sector working. NRW, WATs and Cadw - work to identify "at risk register sites" on the NRW managed estate. FMAGW - Ability to disseminate resources to museum sector. FMAGW - Declared a Climate Crisis (October 2019) as part of the 'Culture Declares' movement.
5.2	The steering group/working group to work with officials across Wales to embed the HEG SAP in national and local government policy statements, plans and codes	<ul style="list-style-type: none"> The historic environment will feature in the Welsh Government Climate Change Adaptation Plan for Wales. The HEG SAP considerations will be linked and noted in, for example: <ul style="list-style-type: none"> Shoreline Management Plans. Relevant Planning Policy Wales supplements. 	<ul style="list-style-type: none"> Help prevent secondary damage and maladaptation to the historic environment. 	<ul style="list-style-type: none"> See 1.1 and 4.1. WG - the SAP is embedded in the WG adaptation plan, Prosperity for all: A climate conscious Wales. Cadw - Responding to consultations - National Strategy for Flood and Coastal Erosion Risk Management in Wales 2019. Cadw/NRW contributed to the draft UK Climate Change Risk Assessment (UK CCRA3). NRW - Historic environment considered in major projects assessing coastal adaptation options for managed realignment or retreat for Flood Risk Management assets facing change. NT - Includes historic environment and climate considerations in responses to consultations, and planning enquiries.
5.3	Provide, promote and maintain a publicly available case study resource to illustrate climate change risks and impacts affecting the historic environment and examples of adaptation. All should be able to contribute to this resource.	<ul style="list-style-type: none"> Case study resource. 	<ul style="list-style-type: none"> Raised awareness of the challenges posed by climate change and adaptation on the historic environment. Demonstration of a range of practices and evidence of direct action. 	<ul style="list-style-type: none"> HEGS - Initial case studies published in the SAP.

Action no.	Description of the action	Output(s) from the action	Broad outcome/impact	Activity
6. Training and guidance				
6.1	Identify and support the training of historic environment practitioners specialising in the impacts of climate change and adaptation of the historic environment.	<ul style="list-style-type: none"> Trained climate change historic environment practitioners. 	<ul style="list-style-type: none"> Raising standards to embed climate change considerations in the historic environment. 	<ul style="list-style-type: none"> NRW - identifying historic environment training needs within NRW, SAP to be included. NT - Fit for the Future environmental network practitioners register of members.
6.2	Climate change historic environment practitioners to provide training and support within and across sectors in the impacts of climate change and adaptation of the historic environment. For example: <ul style="list-style-type: none"> Produce an e-learning module on the historic environment and climate change. Organise slots at meetings, training events and workshops with other sectors. 	<ul style="list-style-type: none"> Planners and developers can advise authoritatively through pre-application advice e.g. on the design and implementation of adaptation proposals. Grant officers can ensure changes and adaptation actions are sensitive to the historic environment. Owners can identify and implement management and adaptation opportunities. Community groups established to develop programmes to identify, monitor and record historic assets at risk. 	<ul style="list-style-type: none"> Raised standards to embed climate change considerations in the historic environment. Improved cross-sector working, knowledge and understanding, decision-making and the quality of adaptation actions. 	<ul style="list-style-type: none"> NLHF - Working with Fit for the Future to help applicants embed environmental sustainability within projects, covering membership costs for project duration. SNPA - Carneddau Landscape Partnership Scheme plans for accredited training in recording and monitoring of historic assets e.g. with Agored Cymru and Conwy Culture Centre. Establishment of community heritage volunteer groups and opportunity to share good practice to seminars/conferences with e-resources (see 2.1-2, 3.1-3, 7.1-5).
6.3	Work collaboratively across sectors to develop and disseminate joint guidance/ advisory notes that increase the knowledge, understanding and resilience of the historic environment to climate change.	<ul style="list-style-type: none"> Guidance/advisory notes produced and promoted. Inclusion of climate change adaptation into all aspects of heritage management. Heritage management and business plans with climate change adaptation embedded. Management practices undertaken that showcase climate change adaptation. 	<ul style="list-style-type: none"> Improved cross-sector working, knowledge and understanding, decision-making and the quality of adaptation actions. Prevention of secondary damage and maladaptation to the historic environment. Improved management of the historic environment. A well-managed and appropriate programme of adaptation measures. 	<ul style="list-style-type: none"> RCAHMMW and partners - CHERISH project best practice guidance documents on monitoring change in the coastal zone to be published 2021. (see 2.1-2, 3.1-2,7.3-4). Cadw - Published guidance on Flooding and Historic Buildings in Wales, July 2019. NLHF - Environmental sustainability guidance published May 2020.

Resilience: Increase resilience of the historic environment by implementing actions to respond and adapt to the risks				
Action no.	Description of the action	Output(s) from the action	Broad outcome/impact	Activity
7. Taking action				
7.1	Prepare and implement emergency/adaptation plans (utilising the principles and methods developed for conservation management plans) for vulnerable areas or sites as identified in 2.1 and 2.2. Plans to include multiple work streams if several agencies have identified the need for adaptation measures.	<ul style="list-style-type: none"> • Identification of significance, threat, vulnerability and adaptive action. • Partnership working with all agencies. 	<ul style="list-style-type: none"> • The prioritisation and effective management of resources. 	<ul style="list-style-type: none"> • SNPA - Carneddau Landscape Partnership Scheme Landscape Conservation Action Plan (5 years) 23 partners, includes vegetation management programme focused on heritage assets (see 2.1-2, 3.1-3, 6.2, 7.2-5).
7.2	Undertake programme of landscape and urban characterisation to inform management of change in both rural and urban areas.	<ul style="list-style-type: none"> • Produce characterisation reports for areas at risk, and feed results into conservation management plans 	<ul style="list-style-type: none"> • Improved conservation and management of change. 	<ul style="list-style-type: none"> • SNPA Carneddau Landscape Partnership Scheme Landscape Character Assessments produced informing Landscape Conservation Action Plan (see 2.1-2, 3.1-3, 6.2, 7.1-5).
7.3	Prioritised work programmes relating to historic assets at risk such as those identified through 7.1, spatial mapping work (2.1), baseline monitoring (2.2) and through other local and national adaptation plans e.g. shoreline management plans. Where possible to be preceded by a management plan. Direct actions could range from survey, record and monitoring through to maintenance and conservation measures, erosion control or moving significant vulnerable assets to a place of safety.	<ul style="list-style-type: none"> • Work programmes underway. • Improved protection and preservation of historic assets. • Improved management of historic assets. 	<ul style="list-style-type: none"> • Mitigation and improved resilience of the historic environment. • Acceptance of inevitable change. • Partnership working and cross sector coordinated response. 	<ul style="list-style-type: none"> • RCAHMMW and partners - CHERISH project management plans for principle study sites. Excavation at several 'at risk' coastal sites, e.g. Dinas Dinlle with GAT, NT and Cadw. (2.1-2, 3.1-2, 6.3,7.4). • PCNPA - Changing Coasts project (2.2, 3.1-2, 7.4). • BBNPA - Waun Figen Felen archaeological baseline assessment to inform the peatland restoration scheme. • NMW - Burry Holms, Gower, early Mesolithic to prehistoric sites research on archaeology eroding from the island edges and past climate and environmental change taken towards publication. • SNPA Carneddau Landscape Partnership Scheme. (see 2.1-2, 3.1-3, 6.2, 7.1-5).
7.4	Establish stakeholder/community groups able to monitor assets and respond to significant events such as wild fires and storms to maximise the potential for the discovery of new historic assets and the recording and monitoring of them.	<ul style="list-style-type: none"> • Stakeholder/community groups established. • Monitoring regimes in place. 	<ul style="list-style-type: none"> • Improved knowledge, management and resilience of the historic environment. • Raised awareness and appreciation of the historic environment. 	<ul style="list-style-type: none"> • RCAHMMW and partners - CHERISH monitoring networks with local community for Albion shipwreck and Dinas Dinlle (see 2.1-2, 3.1-2, 6.3,7.3). • PCNPA - Changing Coasts project community and stakeholder group (see 2.2, 3.1-2, 7.3). • SNPA Carneddau Landscape Partnership Scheme to help people discover, record, celebrate and care for the cultural and natural heritage of the Carneddau. (see 7.1, 7.2, 7.3).
7.5	Encourage and implement new planting regimes where trees and hedgerows form a key component of the historic environment to reduce the impact of the spread of disease and increased storminess.	<ul style="list-style-type: none"> • New planting regimes that are responsive to plant health trends and are of suitable provenance. • The preservation of traditional field boundaries. 	<ul style="list-style-type: none"> • Reduced impact of the spread of diseases and storms. • Improved management and resilience of trees in the historic environment. • Retention and survival of historic character and integrity. 	<ul style="list-style-type: none"> • NRW- Good Practice Guides on forest resilience covering species, structural and genetic diversity. • NRW - Hafod estate new planting plans responding to climate and historic landscape. • NLHF, WG - Local Places for Nature and Community Woodlands two new environmental grant programmes. • SNPA - Carneddau Landscape Partnership Scheme Carneddau Connectivity. National Grid Landscape Enhancement Initiative for more hedges and trees in better condition to cope with change and disease appropriate to the historic landscape, heritage assets and traditional local styles. • SNPA - Carneddau uplands riparian and scattered tree planting to help slow down water flow. Peatland repair. Reducing flooding along watercourses near assets.
7.6	Build a resilient recovery from the COVID-19 pandemic.	<ul style="list-style-type: none"> • Organisational climate and sustainability plans, policies and actions. 	<ul style="list-style-type: none"> • New ways of working that reduce emissions and prepare for climate change. 	<ul style="list-style-type: none"> • Cadw, NRW, SNPA and many other organisations - review of internal operational practice resulting in changed behaviour and new working practices for fieldwork, use of remote monitoring, meetings, reducing travel and carbon footprint. • RCAHMMW established a Future Generations Group and an Environmental Policy Statement May 2020. • NLHF applicants to Heritage Emergency Fund are expected to consider the future environmental sustainability of their organisation and project.

Abbreviations

AC-NMW: Amgueddfa Cymru – National Museum Wales

BBNPA: Brecon Beacons National Park Authority

CCRA3: Climate Change Risk Assessment 3 (2022)

FMAGW: Federation of Museums and Art Galleries of Wales

GAT: Gwynedd Archaeological Trust

GNSS: Global Navigation Satellite System

HE: Historic England

HEAWG: Historic Environment Adaptation Working Group

HEG: Historic Environment Group

HEGS: Historic Environment Group Climate Change Subgroup

MoU: Memorandum of Understanding

NLHF: National Lottery Heritage Fund

NRW: Natural Resources Wales

NT: National Trust

PCNPA: Pembrokeshire Coast National Park Authority

RCAHMW: Royal Commission on the Ancient and Historical Monuments of Wales

SAP: Sector Adaptation Plan

SNPA: Snowdonia National Park Authority

UAV: Unmanned Aerial Vehicle

WATs: Welsh Archaeological Trusts

WG: Welsh Government

Links to Resources

Historic Environment and Climate Change in Wales Sector Adaptation Plan:

<https://cadw.gov.wales/sites/default/files/2020-02/Adaptation%20Plan%20-%20FINAL%20WEB%20-%20English%20%281%29.pdf>

Cadw guidance Flooding and Historic Buildings in Wales:

<https://cadw.gov.wales/sites/default/files/2019-07/Flooding%20and%20Historic%20Buildings%20in%20Wales%20Eng.pdf>

Carneddau Landscape Partnership Scheme:

<https://www.snowdonia.gov.wales/looking-after/carneddau-partnership>

Changing Coasts:

<https://www.pembrokeshirecoast.wales/get-involved/changing-coasts/>

CHERISH Climate Change and Coastal Heritage project:

<http://www.cherishproject.eu/en/>

Fit for the Future Network:

<https://www.fftf.org.uk/home>

National Grid Landscape Enhancement Initiative:

<https://www.nationalgrid.com/uk/electricity-transmission/planning-together-riio/visual-impact-provision/landscape-enhancement-initiative>

NLHF guidance Environmental sustainability:

<https://www.heritagefund.org.uk/good-practice-guidance/environmental-sustainability-guidance#heading-16>

NLHF Local Places for Nature and Community Woodlands grant programmes:

<https://www.heritagefund.org.uk/funding/local-places-nature-guidance>

NRW- Good Practice Guides on forest resilience covering species, structural and genetic diversity:

<https://naturalresources.wales/guidance-and-advice/environmental-topics/woodland-management/planning-for-the-future/making-woodlands-more-resilient/?lang=en>

NRW, WATs and Cadw MoU:

<http://www.dyfedarchaeology.org.uk/policies/naturalresourceswalesmemorandum.pdf>

RCAHMW Environmental Policy Statement:

<https://rcahmw.gov.uk/about-us/corporate-information/policies/environmental-policy-statement/>

UK Climate Change Risk Assessment (UK CCRA3):

<https://www.theccc.org.uk/publications/third-uk-climate-change-risk-assessment/>