

BIODIVERSITY REPORT

2015-2017



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
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PREFACE

The Nature Conservation (Scotland) Act 2004 places a statutory duty on all public sector bodies in Scotland to further the conservation of biodiversity.

“It is the duty of every public body and office holder, in exercising any functions, to further the conservation of biodiversity so far as it is consistent with the proper exercise of those functions”

The Wildlife and Natural Environment (Scotland) Act 2011 (commonly known as the WANE Act) came into force on 1 January 2012 and

introduced a requirement for all public bodies to make a report publicly available on their compliance with biodiversity duty. Biodiversity duty reports are required every three years. This report covers the period 2015 to 2017 inclusive.

The format of this report follows the published 2016 Guidance for Biodiversity Reporting, available at <http://www.gov.scot/Publications/2016/10/2281>.

Further information is available at <http://www.biodiversityscotland.gov.uk/>.



SECTION I: INTRODUCTORY INFORMATION

OVERVIEW OF THE ORGANISATION AND OUR REGULATORY ROLE

Historic Environment Scotland is the lead public body for Scotland's historic environment. We are dedicated to the advancement of heritage, culture, education and environmental protection.

We are at the forefront of researching and understanding the historic environment –and addressing the impact of climate change on its future. We investigate and record architectural and archaeological sites and landscapes across Scotland.

We care for more than 300 properties of national importance. We look after internationally significant collections, including over 5 million drawings, photographs, negatives and manuscripts, and some 20 million aerial images of locations around the world.

We are a regulator responsible for the designation of historic environment assets as well as consents relating to scheduled monuments. We provide grants of over £14 million a year to support building repairs, the conservation of ancient monuments, archaeology programmes and the voluntary sector.

We deliver interactive online services to global users. We provide advice, guidance and training, and promote engagement and participation through programmes of education, outreach and skills-sharing.

Our role in the planning system is primarily to provide advice on the potential impacts of development on the historic environment. We advise planning authorities, developers and others involved in planning.

The historic environment is a fragile and irreplaceable resource but also a dynamic one, and we are committed to preserving its most significant features. At the same time, we recognise that the historic environment can

form the focus for regeneration and business development.

We offer planning-related advice on:

- Category A listed buildings and their setting
- Scheduled Monuments and their setting
- Inventory battlefields
- Inventory gardens and designed landscapes World Heritage Sites
- Historic Marine Protected Areas

We offer advice on the impact of development proposals on these types of site throughout the development process. Such advice is often linked to our statutory functions relating to various consenting processes.

These processes include listed building consent and conservation area consent, and scheduled monument consent. We are also a consultation body for developments requiring an Environmental Impact Assessment.

The management of our Properties in Care provides opportunities for supporting biodiversity improvement and understanding. Properties in Care can be special for biodiversity, and many have been protected from development, particularly agricultural improvement, which has allowed the preservation of local habitats and species.

Many sites can therefore be reservoirs of wildlife which can support conservation initiatives, with important local populations of plants and animals.

Along with areas of semi-natural ancient woodland and unimproved grassland, there are other features of our sites which mimic important natural habitats supporting rare species, for example moats and ditches, old walls and standing stones.

Such sites support populations of rare birds, bats, amphibians and many invertebrates. Other larger sites and linear features, particularly the Antonine Wall, are important contributors to the wildlife corridors which allow plants and animals to migrate as part of normal activity and to spread as a result of pressure from development and climate change.

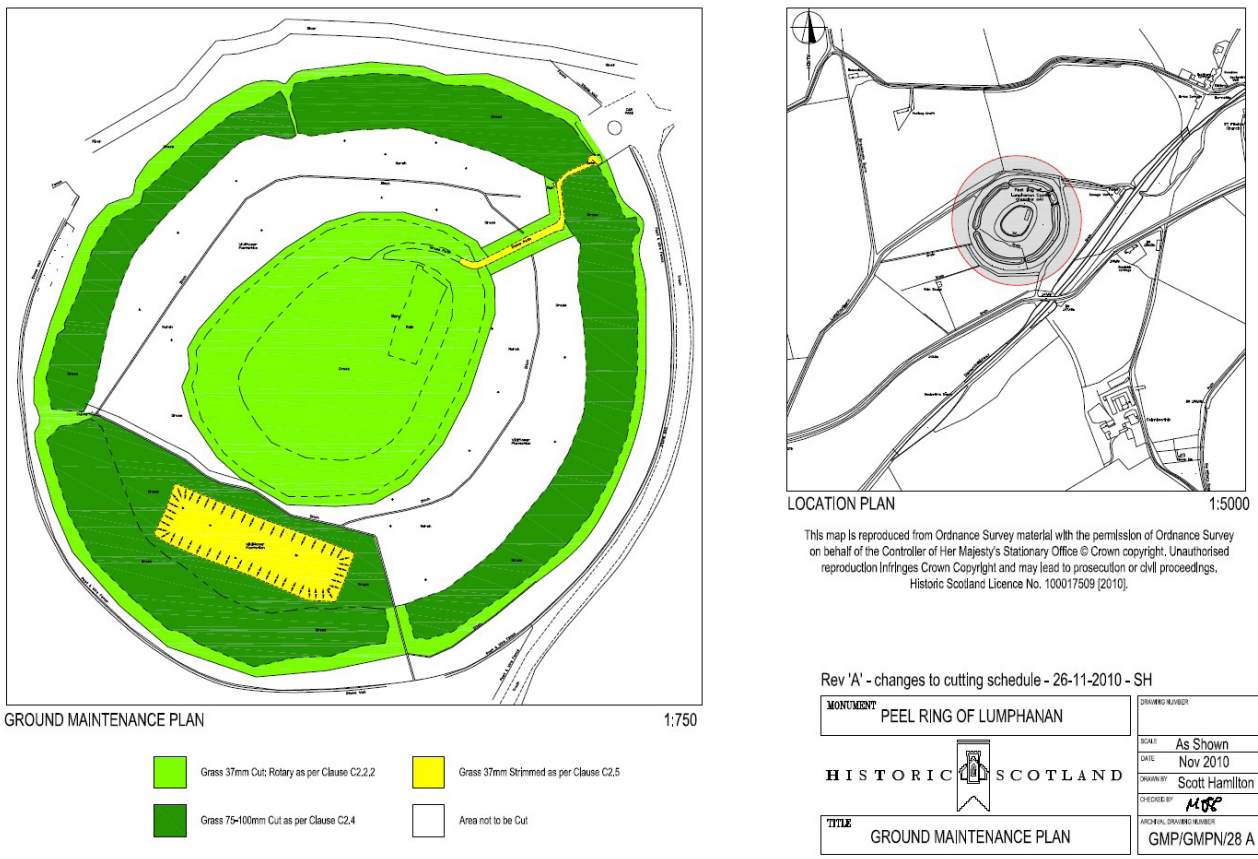
Our Scheduled Monument Consent process includes a section on wildlife to ensure proposed works do not affect European Protected Species, and to ensure that adequate mitigation is put in place.

HES employs a Natural Heritage Advisor (full time staff post), supporting staff and others on biodiversity issues relating to site management, interpretation and education.

Our Ranger Service, based at Holyrood Park, Linlithgow Peel and the Heart of Neolithic Orkney World Heritage Site, undertake site management, education and interpretation at these and other sites, and a large proportion of their work is related to biodiversity.

Over 100 HES staff are formally recognised as Green Champions, undertaking local initiatives to promote sustainability and good environmental practice across our sites.

FIGURE 1: Example of a Grassland Management Plan for Peel Ring of Lumphanan



SECTION 2: MAINSTREAMING

INCORPORATION OF BIODIVERSITY MATTERS INTO OUR OPERATIONS

We undertake a range of activities in relation to Monument Management Planning, Education, Interpretation and Volunteers.

Our site management considers biodiversity through Wildlife Survey reports of our sites. These statements help to inform the management of the site and where possible alter site management practices to help boost biodiversity.

The HES Natural Heritage Advisor undertakes Wildlife Surveys of the 300 sites managed by HES to establish base line information on natural heritage values, including:

- Is property within, or adjacent to, a designated National /International conservation sites
- Species lists
- Presence of UK/European protected species

- Habitat survey and identification of important habitats recognised in Biodiversity Action
- Identification of key species with importance to biodiversity
- Invasive species
- Identification of heritage species; species related to the site history
- Tree condition survey
- Geological importance

Our Monument Management Plans include actions that contribute towards positive management and biodiversity improvements resulting from Wildlife Surveys, including proactive use of features at historical sites which can enhance biodiversity.

Historical sites by nature of their longevity and diverse features have developed as important 'natural' features with considerable wildlife value.

FIGURE 2: Rock Rose, a food plant for the rare Northern Brown Angus butterfly colony, Balvaire Castle



SECTION 3: ACTIONS TAKEN TO IMPROVE BIODIVERSITY CONSERVATION

SPECIFIC ACTIONS TO BENEFIT BIODIVERSITY

Site based initiatives undertaken to increase biodiversity include:

- Erecting bat and bird boxes
- Tree and hedge planting, carried out for nature conservation where possible, although tree planting on archaeological site is problematic.
- Green roofs/soft capping of ruinous structures, with introduction of local plant species where possible.
- Provide and maintain wildlife corridors at Antonine Wall sites

Ranger Service activities in Holyrood Park have included species translocation and surveys, for example:

- Sticky catchfly reintroduction undertaken in 2015 has been challenging, with only 3 plants surviving from 55 grown from seed and planted. 2017 should see an increase in this number as seeds were also introduced which may not yet have germinated.
- Maiden pink translocations have been a major success with 53 of 100 plants surviving to their third year. 2017 saw the first self-seeded plant at Haggis Knowe.
- 310.5 hours of survey work undertaken (117.5 Volunteer hours, 183 Ranger hours) for 7 different species and groups of species (Himalayan balsam, adder's-tongue fern, maiden pink, plume moth, sticky catchfly, bumblebees and butterflies). 2017 saw an estimated 90% reduction in the population of Himalayan balsam.

Edinburgh City Biodiversity Action Plan: 17 out of 17 actions either completed or on course for completion in stated timeframe.

Bryophytes: Rare and scarce mosses were surveyed during winter and all appear extant and safe. This includes *Grimmia anodon* which is thought to occur nowhere else in the British Isles, except on a single rock in Holyrood Park.

GRASSLAND MANAGEMENT

Protection of existing species-rich meadow, undisturbed or unimproved grassland. Many sites have important grasslands protected from agricultural improvement by virtue of its historical significance and protected as a haven for plants and dependant animals. For example, Balvaird Castle grassland with rock rose supporting plant a rare Northern Brown Argus colony, and the Ring of Brodgar flower rich meadow supporting orchids and the rare great yellow bumblebee.

Review of grassland management, identify additional sites with areas of grassland where biodiversity could be increased with reduced or discontinued cutting. Leaving grass uncut will provide suitable conditions for a range of plants, birds, invertebrates and small mammals that prefer, tall vegetation, an abundant litter layer and freedom from disturbance, particularly wil:

- Allow plants to flower, providing additional nectar sources for adult insects
- Provide undisturbed grass for litter dwelling insects
- Provide seed heads both as a source of food and for hibernating insects
- Provide grass tussocks for overwintering insect
- Provide cover and feeding for small mammals

This will in turn provide feeding for other predators especially owls and kestrel which have suffered from a reduction in prey rich field edges and rough pasture.

Larger sites with established grassland cutting improvements include:

- Holyrood Park
- Dryburgh Abbey
- Tantallon Castle
- Balvenie Castle
- St Andrew's Cathedral
- Stanley Mills
- Duffus Castle
- Huntly Castle
- Spynie Palace
- Clickimin Broch
- Auchindoun Castle
- Duff House
- Mavisbank House
- Peel Ring of Lumphanan
- Edzell Castle

CONTROL OF INVASIVE SPECIES

Policy to eradicate invasive species at HES sites e.g. Rhododendron removal at Mavisbank and Castle Campbell.

WOODLAND MANAGEMENT

Recognise the significance of ancient and historic woodlands and veteran trees.

Examples of ancient woodland management practices at HES sites receiving protection within the Scheduled Monument planning process include:

- Traditional woodland management coppice and pollard practices that benefit biodiversity at Caerlaverock Castle
- Maintenance of woodland pasture as part of the Clyde Valley Woodlands SSSI at Bothwell Castle
- Maintenance of veteran trees with historic connections such as ancient sweet chestnuts at Inchmahome Priory
- Semi-natural ancient woodland at Seabegs Wood

FIGURE 3: Rhododendron removal at Mavisbank



WATER FEATURE MANAGEMENT

Historic moats and ditches forming open water, marsh, bog and mire can promote biodiversity. For example:

- Great Crested Newt habitat on the Antonine Wall at Croy Hill
- Seasonal pond at Caerlaverock providing habitat for many invertebrates (seasonal ponds do not have populations of predator species)

Moats are periodically managed by removing silt, though undertaken in an ecologically correct manner.

ROCK FEATURE MANAGEMENT

Historic masonry and ancient standing stones mimic natural rock outcrops, providing important

habitats for rare ferns, mosses, liverworts and lichen, as well as nesting and roosting features for bats and birds. For example:

- Lichen on standing stones at Corrimony Cairn
- Nesting for over 2,000 storm petrels at Moussa Broch
- Peregrine falcon nesting on Threave Castle
- Daubenton's bat roosting within cave-like cellars and chimneys of Linlithgow Palace

PROTECTION OF IMPORTANT HERITAGE SPECIES

Some species can be important for the history of the site. For example, wild leeks are a remnant of a kitchen garden growing in the grounds of Bothwell Castle, and therefore receive protection.



FIGURE 4: Woodland coppice and pollard: traditional examples of historic woodland management that benefit biodiversity at Caerlaverock Castle.

FIGURE 5: Veteran trees and historic connections: ancient sweet chestnuts at Inchmahome Priory



SECTION 4: PARTNERSHIP WORKING AND BIODIVERSITY COMMUNICATIONS

WORKING WITH OTHERS: PARTNERSHIP INITIATIVES ON BIODIVERSITY PROJECTS

EXAMPLES OF PARTNERSHIP WORKING

In the spring of 2016 a pair of peregrine falcons nested at Threave Castle. Working closely with Scottish Natural Heritage and our partners on site The National Trust for Scotland, we ensured they could nest successfully whilst the site remained open.

Parts of the castle and island were closed to visitors to avoid disturbance, and the site staff closely monitored bird behaviour. With the support of SNH, we worked closely with the NTS, especially at the nearby Osprey viewing facility, to ensure that visitors were aware of the birds and their importance to the natural world.

During 2016 we supported the Royal Society for the Protection of Birds, Inner Forth project aimed at increasing opportunities for birds around the Forth Estuary.

The RSPB carried out bird surveys at a number of HES sites, including Clackmannan Tower, Culross Abbey, Linlithgow Palace and Blackness Castle. As a result of the project a number of conservation projects were undertaken, including hedge planting at Blackness Castle by RSPB volunteers.

Working with SNH to improve access to view geology at Dumbarton Rock, whilst safeguarding biodiversity, mainly through removal of sycamore and ash regeneration.

Supporting Strathclyde Geoconservation Group to produce and publish Dumbarton Castle Local Geodiversity Leaflet.

Rhododendron removal at Castle Campbell with National Trust for Scotland



FIGURE 6: Peregrine falcon nesting on Threave Castle

COMMUNICATION AND AWARENESS RAISING

Communicating understanding of our Properties in Care is central to the activity of HES, and where relevant this recognises the importance of biodiversity at our sites.

Our Souvenir Guide Book programme seeks to recognise the importance of both the historical and natural significance of HES sites. Where appropriate the guide draws the visitor’s attention to the wildlife, especially where there is a historical connection. At present, nature is specifically highlighted in guide books at the following sites:

- Blackness Castle
- Brough of Birsay
- Caerlaverock Castle
- Corgarff Castle
- Dryburgh Abbey
- Elcho Castle
- Fort George
- Huntingtower Castle
- Inchcolm Abbey

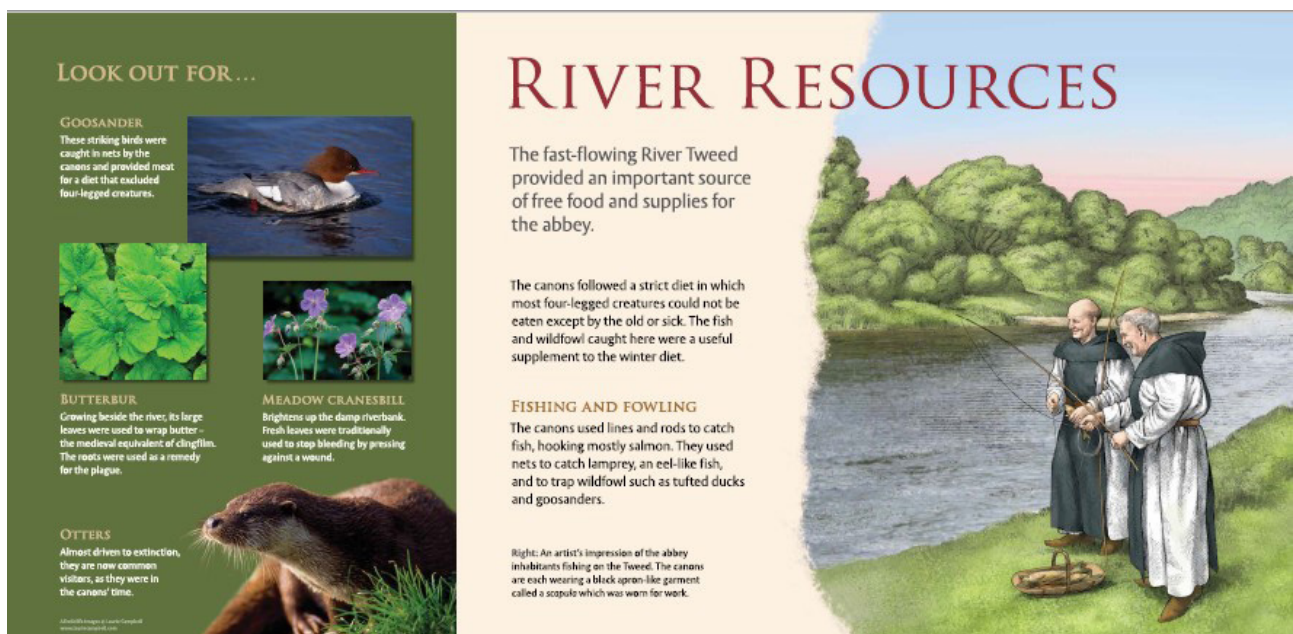
- Inchmahome Priory
- Iona
- Jarlshof
- Linlithgow Castle and Peel
- The Monuments of Orkney
- Maeshowe
- Loch Leven
- Melrose Abbey
- New Abbey Cornmill
- Skara Brae
- Stanley Mills
- Tantallon Castle

Site Steward led initiatives and Green Champions scheme activities include

- Children activities sheets
- Plant labelling
- Wildlife information

Currently 33 site interpretation panels at our sites refer to the interesting and historically significant local biodiversity. Our Members Magazine regularly features biodiversity content, distributed free to our c.170 thousand members.

FIGURE 7: Interpretation panel at Dryburgh Abbey



FORMAL TRAINING AND LEARNING ACTIVITIES

HES has a range of learning activities relating to biodiversity through our Education and Outreach, Visitor Engagement, and Volunteer and Community programmes.

Our Ranger service put across the organisation’s commitment to conservation of the natural and historical environment to a diverse audience through a program of organised sessions. Biodiversity and issues concerning climate change are central to the message. This has included:

- 124 education groups total of 2,132 children and students
- 44 guided walks and activities involving 746 participants

The ranger service has a well-developed volunteer program consisting of:

- Volunteer rangers, volunteers helping rangers in ranger duties including conservation work
- Wildlife volunteers, involved in ongoing conservation and monitoring projects
- Practical nature conservation activities, groups of interested people taking part in specially organised conservation events
- Junior Rangers, opportunities for young people to become in the work of rangers

Amongst the many diverse activities for visitors on offer was the Toad Week. The spring toad migration to the ponds within Holyrood Park is used as a tool for educating people to these much maligned park residents. About 60 willing volunteers helped the migrating toads to cross park roads safely allowing them to complete their migration to spawn.

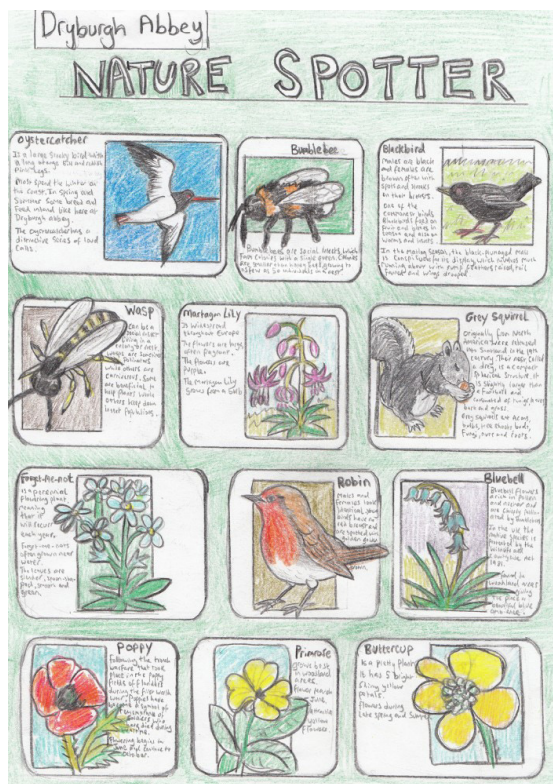


FIGURE 8: Information sheet at Dryburgh Abbey

SECTION 5: BIODIVERSITY HIGHLIGHTS AND CHALLENGES

OUR MAIN ACHIEVEMENTS FOR BIODIVERSITY

Increasing recognition of the importance of biodiversity at our sites, and the synergy between conservation of the historic environment and its role in providing habitats for biodiversity.

The increasing incorporation of biodiversity actions into site management practice and our interpretation and education programmes.

The large number of site-based biodiversity initiatives across our sites and the range of partners involved.

Specific highlights include:

- Support for the Scottish Biodiversity Action Plan process
- Signatory to the Scottish Geodiversity Charter where we have agreed to commit to maintain, promote and enhance geodiversity as an integral part of our natural heritage.
- Contribution to the Edinburgh City Biodiversity Action Plan through our management of Holyrood Park, where 17 out of 17 actions either completed or on course for completion within the stated timeframe.

CHALLENGES AHEAD

Conservation of wildlife and the historic environment can occasionally conflict.

The roots of plants and burrowing animals can destroy archaeology, and vegetation can obscure understanding of sites where there is only subtle evidence of underlying archaeology. Protected species, and other important species and habitats can be present that can impact and/or constrain site management.

However with careful consideration there are many opportunities to increase biodiversity, as outlined in the many examples given in this report.

Continue to integrate good practice into the monument management process based on Wildlife Survey reports.

Promote synergy of historical features as important to biodiversity, and researching the importance and significance of the biodiversity of these features so their importance can be properly recognised.

Identify training requirements for site management/maintenance staff, for example in bat awareness.



FIGURE 9: Wild leeks, remnants of a kitchen garden, in the grounds of Bothwell Castle.

SECTION 6: MONITORING

ASSESSING THE IMPACT OF OUR ACTIONS

Our Wildlife Survey programme includes identification of important sites requiring resurvey on a regular basis. To date our monitoring does not show any significant trends to highlight areas of concern.

Our survey data is added to the National Biodiversity Network Gateway (NBN) and/or Biodiversity Action Reporting System (BARS), and species reported on National Biological Recording system



FIGURE 10: Daubenton's bat roosting within the cave like cellars and chimneys of Linlithgow Palace

SECTION 7: CONTRIBUTIONS TO NATIONAL TARGETS

Most of our activity is at local site level related to our 300 Properties in Care.

A number of larger sites have greater significance, such as the Antonine Wall and our management of SSSIs such as Linlithgow Peel and Holyrood Park, which have potential input to catchment restoration and management through HES site wildlife reservoirs, and allow species re-establishment through corridor features.



FIGURE 11: Orchids at the Ring of Brodgar

Our education and outreach programme, including Ranger activities with schools, will have influence beyond our sites, and our public engagement activities (e.g. guide books and interpretation panels) are exposed to more than 4 million people who visit our sites annually.

Our ongoing long-term management and improvement of sites with designations such as Sites of Special Scientific Interest, Ramsar Wetlands of International Importance), Special Areas of Conservation and Local Wildlife Sites indicates our support for national and international nature conservation.

LOOKING FORWARD

The next three years will see further integration of biodiversity improvements within our Monument Management Plans, recorded through Annual Monument Audits. The specific aim is to integrate Wildlife Survey data into 180 Site Management Plans to include specific management improvements to increase biodiversity, where feasible, by the end of 2020.





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