Network Rail, Wales Route Environment (Wales) Act 2016: Section 6 duty summary report (December 2019)

Working for you.

Executive Summary

Network Rail is committed to enhancing and maintaining the biodiversity value of its land where possible and reasonably practicable. One of our key principles in Network Rail's 'Environment and social performance policy' is that "We will manage our land sustainably including consideration of our impacts on Biodiversity". We regularly consult with external stakeholders, including NRW and the Local Authorities, to agree mitigation for works in areas where there are protected species and habitats present, and in relation to permissions and adjacent protected sites.

It is defined in the State of Nature 2019[1] report that green infrastructure "can provide habitat for a wide range of species". In the current programme of works we are aiming to deliver and develop resilient ecological networks (e.g. wildlife corridors) establishing a pragmatic direction in relation to balancing a safe operational railway, while maintaining and enhancing biodiversity wherever possible. The Section 6 duty is a consideration for activities undertaken within the route, and we are aiming to provide green infrastructure and design enhancements where the opportunities exist, for example: green roofs, wildlife friendly gardens, additional tree planting and wildflower meadows at train stations. There is a plan to upskill and enhance the knowledge of staff and increase the specialist internal ecological expertise on the Route.

This report aims to fulfil the requirement to report on our Section 6 duty. It highlights some key examples of how Network Rail in Wales are contributing positively towards maintaining and enhancing biodiversity and embedding consideration of biodiversity into our ways of working.

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[1] https://nbn.org.uk/wp-content/uploads/2019/09/State-of-Nature-2019-UK-full-report.pdf

Introduction

This document serves as a summary report to fulfil Network Rail, Wales Route's obligation under the Environment Wales Act 2016. Network Rail plan to publish a national Biodiversity Action Plan by early 2020 which will form the overarching plan.

As a public authority Network Rail in Wales have a duty to comply with the Section 6 'biodiversity and resilience of ecosystems duty' (the 'Section 6 duty') under the Environment Wales Act 2016, in the exercise of its functions in Wales. "The Section 6 duty requires that public authorities must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in doing so promote the resilience of ecosystem"[2].

This report fulfils the Section 6 duty for Network Rail to prepare and publish a plan setting out what we propose to do to maintain and enhance biodiversity and promote resilience. A report on what Network Rail has put in place to comply with this duty will be revised every three years after the date of first publication.

Network Rail are fully committed to their sustainability obligations and have several existing workstreams which enable us to comply and meet the requirements of Welsh legislation. The Wales Route works with other parts of Network Rail to communicate the Wales specific requirements.

This report specifically focuses on the Section 6 duty that Network Rail Wales Route has under the Environment (Wales) Act 2016.
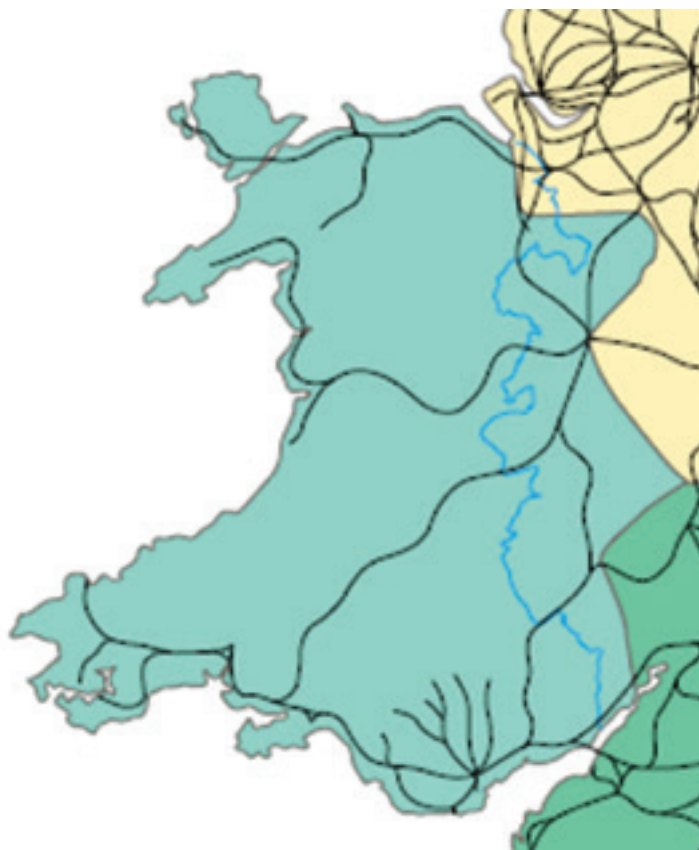
Map illustrating the Wales Route (Photo: Network Rail)

[2] Welsh Government (2017) Environment Wales Act 2016 Guidance for Section 6 – The biodiversity and resilience of Ecosystems Duty. FAQ.

The Wales Route

Background to the Wales Route

The Wales Route operates as a sub division of the Wales and Western Region within a national framework and covers approximately 1000 miles, with the majority of the Route crossing rural areas which have a rich array of biodiversity. The Wales Route is adjacent to, or within, over 100 UK and European protected sites. It is also the only Route which requires working with three separate environmental regulators, these are: Natural Resources Wales, the Environment Agency and Natural England.

Section 6 of the Environment (Wales) Act 2016 introduced an enhanced duty (the Section 6 duty) for public authorities in the exercise of functions within Wales. As a public authority Network Rail has a duty to comply with this, and other UK and European legislation, and provide evidence of doing so. There is an overriding and appropriate concern for safety on the railway. It is recognised that ecology needs to be embedded in policies and standards, and across the organisation.

Interaction with Network Rail's operations and the natural environment is extensive. It is recognised by key internal stakeholders across the business, that Ecology is an area in which the risks should be effectively managed, and we should plan our work accordingly. We aim to integrate our Section 6 duty into the way in which we work.

The 'Wales Route Strategic Plan' has set out an objective and commitment to "minimise our impact on the environment". Within this plan, there is aspiration to focus on ecology as a priority area in CP6.

Map illustrating the Wales Route (Image: Network Rail)

A 'Section 6 duty' under the Environment (Wales) Act

Environment (Wales) Act 2016

The Environment (Wales) Act 2016 sets out a requirement for the sustainable management of natural resources and sets out a new legislative framework for managing the Environment in Wales. The Act presented three main products to focus on key objectives to deliver a viable change to achieve Sustainable Management of Natural Resources (SMNR) in Wales. These products were produced by NRW:

1. State of Natural Resources Report (SoNaRR)

2. Natural Resources Policy

3. Area Statements

The Section 6 duty under the Environment Wales Act, superseded and strengthens the previous 'biodiversity duty' which was detailed in the Natural Environment and Rural Communities Act 2006 (known as the NERC Act).

Wellbeing Duty

Whilst not directly covered by the related 'Wellbeing and Future Generations Act 2015', Network Rail recognises the importance of this 'wellbeing duty' as it has a positive impact on the public in Wales, and this ties in with our objective of "putting passengers first".

The 'resilient Wales' goal further strengthened the biodiversity duty requirement for other public bodies: "A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change)".

Rail transport is recognised as being a sustainable mode of transport, being a key part of an integrated transport system by linking with other public and active transport networks. The railway also acts as an enabler to allow members of the public to access the countryside for leisure purposes, such as interacting with their natural environment and facilitating positive health and wellbeing.

Priority Species and Habitats

In addition to the Section 6 duty, the Environment Wales Act also replaced the NERC Act Section 42 duty on the Welsh Minister to publish, review and revise lists of Priority Species and Priority Habitats in Wales which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

Under Section 6 of the Environment Wales Act, Public Authorities must have regard to:

- the Section 7 list of Priority Species and Habitats,

- the State of Natural Resources report (SoNaRR) published by NRW in 2016, and

- any Area Statements in areas where the public authority exercises its functions.

Area Statements

The Area Statements[3] will be published by NRW in March 2020 and aim to provide a place-based focus on working to deliver sustainable management of natural resources (SMNR). In this respect NRW must work collaboratively in a joined-up way with their partners and stakeholders, when managing their natural resources in Wales.

There will be seven separate Area Statements covering Wales, six terrestrial and one marine. The marine Area Statement will cover the whole inshore marine area out to twelve nautical miles. The Marine Area Profile was published in by 2019 and provides a summary of evidence to produce the Marine Area Statement. Each Area Statement will have emerging themes for the individual areas the statements relates to and identify the key benefits of ecosystem services for each area through working with stakeholders. Network Rail will work collaboratively with NRW to have input into these Area Statements. The following map illustrates the places creating Area Statements in Wales:

[3] https://naturalresources.wales/about-us/area-statements/?lang=en

Map of Area Statements in Wales map (Image: NRW website)

Biodiversity reporting

The Environment Wales Act requires that each 'public authority produces a report on what it has done to comply with the Section 6 duty must be published by the end of 2019 and then every three years after this date'. The next report will be completed by 31st December 2022.

Nature Recovery Action Plan for Wales (NRAP)

'The Nature Recovery Action Plan for Wales: setting the course for 2020 and beyond'[4] was produced by the Wales Biodiversity Strategy Board for the Welsh Government in 2015. The plan sets out six objectives for how Wales will reverse the decline of biodiversity and address the Convention on Biological Diversity's (CBD) commitments which the UK government committed to in 1992. The vision of the CBD Strategic Plan for Biodiversity 2011 -2020 is: "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.' with its mission 'to take urgent action to halt the loss of biodiversity". The key ambition is to: "To reverse the decline in biodiversity, for its intrinsic value, and to ensure lasting benefits to society".

It is considered that each function of a Public Authority should contribute to the NRAP objectives and to promoting resilience, through addressing its attributes as detailed in the Environment (Wales) Act. The Act sets out the five attributes in response to the NRAP objectives:

Diversity – generally speaking, more diverse ecosystems are more resilient to external influences and their impacts. This includes biological geological and physical diversity.

Connectivity within and between ecosystems.

Scale and Extent – the bigger the ecosystem extends, without fragmentation the more resilient it is likely to be.

Condition – ecosystems need to be in a healthy condition to function effectively, to deliver a range of important ecosystem services.

Adaptability – the ability of ecosystems to adapt to events, understanding the ecosystems are not static and will change over time.

[4] https://gov.wales/sites/default/files/publications/2019-05/nature-recovery-action-plan-2015.pdf

Network Rail aims to maintain and enhance biodiversity in Wales, across all its functions. This aim fulfils the obligation of exercising the requirement of how positive action for biodiversity will be cascaded across its functions. The Network Rail Biodiversity Action Plan which will be published in early 2020 and will include a vision that will fulfil the requirement of a high-level statement that demonstrates commitment to, and responsibility for, complying with the Section 6 duty at a corporate level.

Other Legislative and policy context

Additional legislation exists to provide protection to habitats and species in the UK, this includes:

- The Conservation of Habitats and Species Regulations 2017 (as amended);

- The Birds Directive;

- Wildlife and Countryside Act 1981 (as amended);

- The Environment (Wales) Act 2016;

- The Countryside and Rights of Way Act 2000;

- The Hedgerow Regulations 1997; and

- Protection of Badgers Act 1992.

The requirements of UK and Welsh specific legislation and policies are incorporated into Network Rail's existing business processes.

Biodiversity and Sustainability in Network Rail

The Vegetation Management Review

In June 2018, Jo Johnson MP who was the acting Minister for Rail, instructed John Varley to undertake an independent review into Network Rail's approach to vegetation management across England and Wales. This followed concerns about the impact that tree felling, considered necessary for the safe operation and performance of the railway, was having on nesting bird populations' (Varley, 2018). The Varley Review[5] identified six recommendations in relation to lineside vegetation management, these are:

1. The Government must set out a clear policy position for Network Rail in terms of delivering for the environment.

2. Appropriate governance must be put in place at organisation, route and project level.

3. Network Rail should publish an ambitious vision for the lineside estate.

4. Network Rail must value and manage its lineside estate as an asset.

5. Network Rail must improve its communication with affected communities.

6. Network Rail should lead a cultural change for valuing nature and the environment.

In response to this review, Andrew Jones (the Secretary of State at DfT) responded saying that Network Rail and DfT will work towards acting on the six recommendations. It was acknowledged by Andrew Jones that Network Rail is "one of the largest landowners in the whole of the UK" and that there will have to be "a change in governance, organisation and culture within Network Rail, to ensure that these activities are better aligned towards achieving national biodiversity goals".

The objectives which are stated in this document all contribute towards realising the recommendations within the Varley Review.

Network Rail's Response to the Varley Review

Network Rail responded to the Varley Review in the document 'Valuing Nature a railway for nature and people. Response to the review of our vegetation management'[6]. Network Rail acted upon the Review through the 'Sustainable Land Use programme working with teams across the Wales Route. We are integrating the recommendations into our work across Wales and the rest of the railway network through trials and novel ways of working. This will have a positive impact on the way in which we work.

The Department for Transport's Lineside Policy

The 'DfT Policy' (dated July 2019)[7] is the Department for Transport's (DfT) response to the recommendations from Varley Review. The policy statement addresses the first of the Varley recommendations: "The government expects well designed and maintained habitat management of its lineside estate to be fully integrated into Network Rail's objectives, culture, decision-making and management processes.." and "..expects Network Rail to carry out activities in a way that minimises harm, and wherever possible improves, the natural habitat".

Weather Resilience and Climate Change Adaptation

Network Rail works closely with many governmental and specialist organisations to prepare our railway for the climate changes projected over the next few years, decades and beyond. Network Rail has produced a 'Weather Resilience and Climate Change Adaptation'

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[5] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/759698/valuing-nature_a-railway-for-people-and-wildlife-the-network-rail-vegetation-management-review.pdf

[6] https://cdn.networkrail.co.uk/wp-content/uploads/2019/07/Network-Rail-Recommendation-Action-Summary-Response-to-Vegetation-Management-Review.pdf

[7] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819833/enhancing-biodiversity-and-wildlife-on-the-lineside.pdf

(WRCCA) Strategy[8] and a Wales specific 'Route CP6 Weather Resilience and Climate Change Adaptation Plan' (WRCCAP)[9]. The Wales Route's updated plan reports Network Rail's progress and sets out the plan for CP6 and beyond. The plan also updates on our vulnerability and impact assessments to account for changes in the Network Rail WRCCA strategy and guidance.

It is acknowledged in the WRCCA strategy document, that "Climate change is projected to increase the frequency and severity of extreme weather and is likely to have significant impacts on our infrastructure in the future". The Strategy provides commitments for Network Rail to "transform the way we work to ensure that, over time, Britain's railway becomes resilient to projected future climatic conditions at the same time as managing high risk assets which are currently disrupting operations during periods of adverse and/or extreme weather".

Other relevant documents

Network Rail have the following existing policy and guidance notes which provide information on how we manage biodiversity:

- Environment and social performance policy (dated 3rd March 2019)[10]

- Planning and managing biodiversity[11]

Through complying with these documents and ways of working, we are working towards our Section 6 'biodiversity and resilience of ecosystems duty' under the Environment Wales Act 2016, in the exercise of our functions in Wales.

[8] https://safety.networkrail.co.uk/wp-content/uploads/2017/02/NR-WRCCA-Strategy-2017-2019.pdf

[9] https://cdn.networkrail.co.uk/wp-content/uploads/2019/10/Wales-CP6-WRCCA-Plan.pdf

[10] https://safety.networkrail.co.uk/wp-content/uploads/2016/03/Environment-Policy-2015-Signed.pdf

[11] https://safety.networkrail.co.uk/wp-content/uploads/2018/06/Biodiversity-planning-and-managing-Guidance-Note.pdf

The Future – A railway for People and Wildlife

This section highlights examples of how the Wales Route are already showing commitment towards fulfilling the requirement of their Section 6 duty; and the 'next steps' that will be taken to fulfil these commitments.

Specialist internal capability on the Wales Route

Recently, the Wales Route has largely been dependent upon technical expertise from Consultant Ecologists to compliment the Environmental staff within Network Rail (both local and central staff). This support has included Seconded Ecologists. We also have generalist Health Safety and Environment (HSE) staff who are embedded within our delivery organisations to provide first contact support.

Planned project work is managed through the Governance for Railway Investment Projects (GRIP) process by our Capital Delivery organisation. As part of this process there are 'Environmental Management and Social Performance' deliverables, which cover Ecology and Biodiversity. For reactive works, Ecologists provide support to planners, delivery managers and site operatives in the form of providing pre-construction surveys, site supervision and reporting. The Ecologists provide advice on whether protected species or sites (including local and statutory sites) might be impacted by the works. Where applicable, protected species licences and any permissions required are gained prior to works commencing.

In May 2019, the Wales Route employed a Route Ecologist who provides over-arching advice and guidance across the teams to enable consistency in the way we work. This resource complemented the consultant Ecologists that were employed through the Asset Management and Maintenance teams. The Wales Route are in the process of expanding their internal Ecology support, in addition to sourcing resource from external Ecological Consultancies where needed.

In 2020, additional full-time Ecologists are to be added to the organisation along with, additional temporary Ecologists to assist the teams, provide guidance, advice and additional resource to enable compliance with legislation. The Ecology support also assists with protected species and consent compliance, and on-site supervision of works (including pre-construction surveys). We also aim to utilise best practice guidance within our working methodology. This is a fantastic opportunity and will support the ideal of embedding biodiversity within our culture at Network Rail. Increasing the technical resource of Ecologists on the Wales Route also contributes to increasing the skillset in relation to Ecology and understanding biodiversity as recommended in the UK Government's review. We are also upskilling and enhancing our frontline management teams with the aim to integrate biodiversity into our culture.

The Wales Route also has strong links with the STE Directorate which are the business technical authority for Biodiversity and Environmental management. In addition to this ecological support, the British Transport Police (BTP) (which Network Rail provide direct funding to support) recruited a Wildlife Crime Officer specifically covering Wales. Network Rail are cooperating with the BTP and raising the awareness of this threat to wildlife and how to report any suspicious incidents across our teams.

Next steps:

1. The Wales Route Ecologist to continue communication with the BTP Wildlife Crime Officer for Wales.

2. The Wales Route to recruit additional internal Ecology support by end of 2020.

Network Rail's Biodiversity Action Plan

Network Rail's Sustainable Land Use team, which are part of our STE Directorate are working to respond to the Varley Review recommendations, which includes producing a biodiversity action plan for the whole of the national rail Network (including Wales). This work has commenced and will be completed by early 2020.

Our Sustainable Land Use team are beginning to work on creating the standard that will require Route Specific Habitat Management Plan which alongside vegetation management plans will result in the vegetation on the lineside being treated as an asset, which is a challenging culture change for Network Rail and aligns with one of the recommendations in the vegetation management review. These management plans will be based upon the Ecological baseline survey information and an Ecologist will be involved in forming these plans with the Asset Management team.

Currently commissioned survey reporting during projects of a given extent or value includes a Biodiversity Calculation which is based on the DEFRA biodiversity metric. This assists the project manager in making decisions in order to ensure that there is 'no net loss' in Biodiversity following the completion of the project. Welsh Government and NRW are due to provide guidance on Natural Capital Accounting, and Network Rail in Wales will review how to meet internal standard requirements in consultation with NRW and WG by end of 2020.

Next steps:

3. Network Rail STE to publish the Network Rail Biodiversity Action Plan in early 2020.

4. Network Rail to produce the template for the 'Route Level Biodiversity Action Plans' late 2020. Wales Route to publish their BAP in this format by end of 2020.

5. Network Rail to publish overarching Key Performance Indicators by end of 2020.

Providing a Green Corridor for Wildlife

The lineside vegetation of the railway lines across Wales can provide a network of green corridors which wildlife use for navigating, commuting, and habitat for foraging and shelter. These green corridors are in the form of hedgerows and lines of trees, or dense scrub. Network Rail manage these vegetation corridors firstly with safety in mind, whilst being sympathetic to the wildlife that use them. We work with Ecologists and specialist tree surveyors (arboriculturalists) who have been trained in identifying the features of trees. The Ecologist identifies potential use by protected species, whilst the arboriculturalist identifies those trees which are dead, decaying or dying (DDD). Whilst the safety of the line, our people and its users are paramount, Network Rail are committed to compliance with wildlife legislation and to retaining a wildlife corridor wherever there is space to do so.

Next steps:

6. Retention of a corridor of vegetation wherever it is practicable to do so.

7. Incorporate biodiversity as a priority in our Route Specific Habitat Management Plans. Wales Route to produce their plan by July 2020.

Sharing our lineside with Wildlife

Network Rail owns, maintains and renews the various assets that make up the railway infrastructure, in order to provide train paths for train operating companies to run services. Where we undertake major engineering works our processes are written to consider the impact on protected species and potential mitigation for works.

An example of this are instances where Network Rail have engaged with Ecologists to exclude badgers from locations where there is potential for landslips (also known as landslides to occur, under licence. Network Rail's Works Delivery team in Wales have been successful in moving badgers from unsafe areas under licence through utilising forward planning in consultation with competent Ecologists.
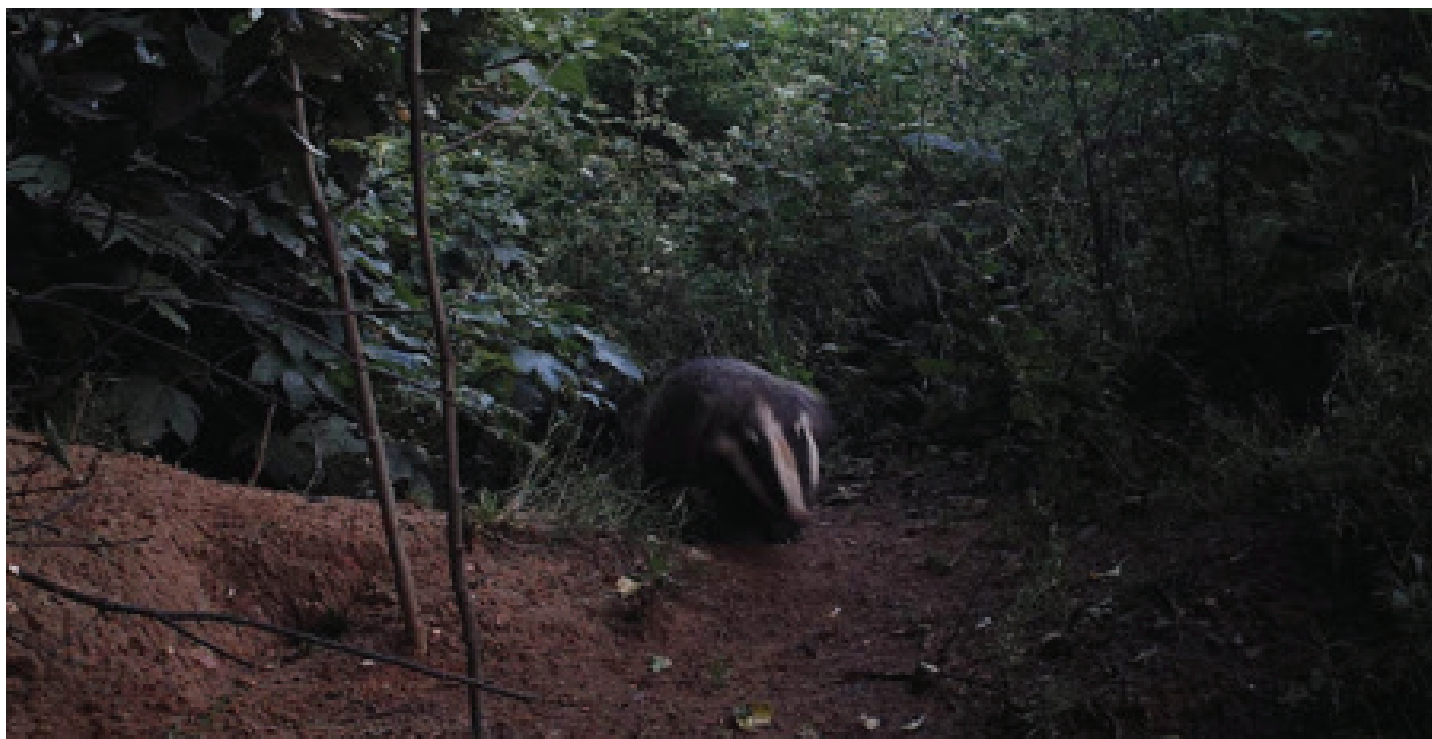
An adult badger (Photo: Network Rail)

Another example of where we are working with stakeholders and ecologists to protect the wildlife which inhabit our lineside corridor of vegetation is in providing alternative habitats for great crested newts (Triturus cristatus), for instance on our Vale of Glamorgan line. For this project, our Capital Delivery team engaged with NRW from an early stage in the development of the project and have agreed to build hibernacula prior to the construction phase of development as part of the mitigation, under the guidance of a suitably qualified ecologist.

In 2016, the Capital Delivery team refurbished the Afan Underbridge at Port Talbot, and installed nest boxes for dippers (Cinclus cinclus) on the underside of the bridge. On completion of the works additional tree planting was undertaken when a grass verge was reinstated where the site compound had been located. In the same year, another scheme to refurbish an underbridge incorporated additional biodiversity enhancement through the erection of hibernacula for amphibians and reptiles. In order to be compliant with legislation and that no animals were harmed during the works the Capital Delivery secured required licences and permissions prior to works commencing. Mitigation to fulfil licence conditions following completion of works (e.g. dormouse licences) have included installing dormouse nest boxes and tree planting.

In early 2019, ahead of vegetation management works at Porthkerry Ecologists to provide advice on the removal of trees that had been assessed as being high risk to safe operation of the railway due to their size and position on the steep embankment. In consultation with NRW, mitigation measures to avoid impacts and reduce risk to designated and notable species were undertaken during management works. Compensation and enhancement measures were undertaken following completion of vegetation management. These included supplementary planting of native shrub and small tree species in a range of in a range of species considered to be of value to wildlife on the crest of embankment to attempt to offset the removal of scrub and trees sites needed to facilitate the works. Dedicated log piles and windrows were created from the cut material and brash in order to provide sheltering and hibernating habitat for amphibians, reptiles and hedgehogs. Bird nest boxes in various styles to suit a range of bird species were installed to compensate for loss of nesting habitat until the supplementary planting has had enough time to establish. Bat boxes were installed as an enhancement to increase provision for roosting bats on the Site.

Pollinators

In the 'State of Nature' report for published in 2019, growing concern for pollinators was highlighted with the "decrease in plant diversity and flower rich habitats" being one of the attributed causes. Network Rail have planted wildflower meadows on areas of land such as outside Railway Stations. We work with the community rail partnership groups to enhance the environment around railway stations including planting schemes. Our Asset Management team are in communication with the Gwent Wildlife Trust in relation to assisting with creating habitats for the Shrill Carder Bees.

Peacock butterfly on the lineside (Photo: Network Rail)

Next steps:

8. Wales Route teams to continue to work with Ecologists to protect the wildlife on the Network Rail estate.

9. Network Rail will look at options to plant wildflower meadows specifically to attract pollinators where it does not be detrimental to other Priority Habitats or Priority and protected species.

Use of innovation to avoid negative impacts on Ecology

On the Wales Route we have many internal colleagues who have a keen interest in Ecology and conserving biodiversity. For instance, in our Works Delivery team (a sub-group of Capital Delivery) they recognise opportunities to introduce innovation into the process of any interventions through our close working relationships with stakeholders.

An example of innovation is the use of the 'bubble curtains' to minimise silt contamination for works within and / or adjacent to watercourses. This system has several advantages in protecting biodiversity, these include that the bubble curtain controls sediment pollution where works are required within the watercourse. It significantly reduces noise pollution into the watercourse. There is no physical barrier in the watercourse. This curtain is only utilised during the works for a few hours, so minimising any disturbance to wildlife.

Bubble curtain in use (Photo: Network Rail).

Further innovations to increase the green infrastructure on projects (such as the use of hydro-soil instead of concrete on embankments) are being investigated by teams across Network Rail and will be implemented where appropriate. NRW has raised with Network Rail that the use of concrete canvas on scour sites continue to add to the scour problem. The Works Delivery engineers are looking into alternative materials, such as the use of staked 'rock mattresses' which allow for the original riverbed stone to be replaced. Network Rail will continue to liaise with NRW in relation to their innovative design solutions to problems which we face when trying to balance the focus of safety with our duty to conserve biodiversity on our Route.

Avoiding disturbance to ecology during our works is another focus which our Capital Delivery project managers look for solutions to lower the environmental impact of our engineering works. An example of this is the use of the 'spider plant' machine, which allows access to up to 2m sheer slopes that would normally require a ramp or alternative access installed.

The Spider Plant (Photo: Network Rail)

In January 2020, the Wales Route Ecologist will begin providing regular ecology workshops to provide training to the Works Delivery Managers in Ecology related matters, including increasing their awareness of being able to recognise opportunities to enhance biodiversity when planning work. This supports the recommendation in the Varley Review to increase the skill set in relation to Ecology across Network Rail. The Ecologists will also work with the Asset Management team to include ecological requirements in the remit of work.

The Infrastructure Project team (a sub-group of Capital Delivery) also considers biodiversity enhancements in their project delivery. Capital Delivery have Ecologists integrated within the teams and through the supply chain organisations, under the Safety and Sustainable Environment section covering Wales and Western.

Next steps:

10. Improve the knowledge base internally at Network Rail to allow staff to recognise opportunities to enhance biodiversity when programming or project management.

11. Capital Delivery to continue to look at finding innovative solutions to lower the impact of our engineering works on the environment.

12. Ecologists to work with Asset Management team to include ecological requirements.

Dealing with the threat of Ash Dieback

Both the Asset Management team and the Route Ecologist have attended external meetings in July 2019 to discuss the threat of Ash Dieback to our trees on the lineside. These meetings include an initial meeting of the 'Ash Dieback Core Group' organised by the Welsh Government, and the 'Ash Dieback Toolkit Event' organised by the Tree Council.

Network Rail are currently working with the Tree Council to produce a plan to tackle Ash Dieback and will aim to work with their lineside neighbours wherever possible to tackle this issue. This is a challenge for Network Rail as we need to balance the biodiversity value of our lineside corridor with the potential safety issue of leaving diseased trees in situ. Wherever possible we will aim to retain diseased trees through coppicing and pollarding rather than removing the trees completely.

Next steps:

13. The Wales Route Ash Dieback Plan will be published by Network Rail in early 2020.

Response to adverse weather events

The Wales Route sweeps along valleys, estuaries and coastal sites. As a result, our infrastructure is susceptible to flooding incidences. A recent example of how flooding can have a great impact upon running a safe railway is that of the high-profile incident on the Conwy Valley Line in March 2019.

The Conwy Valley Line just south of Llanrwst has experienced periodic flooding as a result of extreme rainfall events throughout its lifetime. The most recent of these events culminated in 104.6mm of rainfall in twelve hours at Capel Curig on 16th March 2019. This intensity of rainfall was unprecedented for the area. The subsequent flooding from Storm Hannah severely impacted the assets along a 10-mile stretch between Tal-y-Cafn and Betws-y-Coed forcing the line to be closed for nearly four months. The project team from Network Rail worked closely with local Ecological consultants and NRW so that the works required to re-open a safe working line were in accordance and complaint with all environmental legislation. Network Rail have also presented several public information events to allow local interests to be captured in the management of this project.

Through working on the Conwy Valley line and other projects across Wales, our internal teams have developed excellent working relationships with staff at NRW in the Flood Defence team. Weather already has a significant negative impact on railway performance and safety. Climate change will affect our ability to deliver an effective and safe service for our customers in the future. Network Rail are seeking to improve our knowledge and understanding of the future climate and thus provide a weather resilient and safe railway line for our passengers in Wales. When responding to adverse weather events we will continue to incorporate the advice of Ecologists in planning our response.

Image of the Conwy Valley line following the flooding incident in March 2019 (Photo: Network Rail)

Next steps:

14. The Wales Route to continue with the Memorandum of Understanding (MOU) with NRW.

The Shoreline Management Plan

A Shoreline Management Plan (SMP) is a large-scale assessment of the risks associated with coastal processes including tidal patterns, wave height, wave direction and the movement of beach and seabed materials. A SMP helps reduce these risks to people and the developed, historic and natural environments.

Barmouth Bridge (Photo: Network Rail)

The System Operator team in Wales is at an initial stage of producing a Strategic Network Study to better understand the impacts of the policies set out in the SMPs through the mechanism of Continuous Modular Strategic Planning (CMSP). We are aiming for a collaborative approach and have already engaged in initial meetings with the Welsh Government, Natural Resources Wales and Gwynedd County Council as key stakeholders and utilising the Climate Change Sub-Group to inform relevant stakeholders impacted by the West of Wales SMP which is the initial area focused on. Consultation will also heavily involve internal clients at Network Rail (including Asset Management, Ecology, Environment and Engineers) in addition to external stakeholders.

This study will assess where further strategic planning is required or where there will be further impact on asset management policy going forward.

Next steps:

15. The date for publication of the Strategic Network Study is 2020.

Engagement with adjacent landowners and key stakeholders

It is recognised that the land owned by Network Rail can provide a valuable wildlife corridor at scale and therefore it is pertinent that we consider the wider landscape when undertaking our work. We aim to become involved with projects which have a Landscape Scale approach to Biodiversity.

As previously stated, Network Rail already have in place excellent working relationships with key stakeholders and are already involved with strategic planning in Wales. For instance, since 2016 Network Rail have an MoU with NRW which has greatly assisted our work, providing a key central contact for our staff to communicate directly with.

On the Wales Route we have staff with specific roles to have an interface with the Public, including dealing with public complaints, lineside neighbour issues and communications. Our Customer Support team also work with local community groups and issue community licences for groups to e.g. plant flowers, or for gardening on Network Rail land. Some great examples of this type of scheme can be found in Chirk. A bee hive is next to the Chirk train station where an area of land is being maintained by a group of station adopters that work on our land under licence. This very active group, working on maintaining the station and surrounding areas on a regular basis. Another individual holds a licence to work on land on the approach to Chirk Station, for a plan to grow crops for a local food bank, but there is also a pond and beehives being kept on this land.

We aim to become more involved with working with key stakeholders and local landowners, either with a common interest in Biodiversity or with their own Section 6 Duty that they need to comply with. We aim to target working with the following:

• Public

• The Wildlife Trusts in Wales

• RSPB

• Natural Resources Wales

• Local Wildlife Groups and projects

• The Welsh Government

• Woodland Trust

• National Trust

• Transport for Wales

Dyfi osprey project

Network Rail has supported a project to help breeding Ospreys (Pandion haliaetus) in mid-Wales since it's early beginnings in 2009. Due to the potential threat of egg thieves and to enable live footage streaming of the nest to the visitor centre and worldwide, Network Rail have sponsored the electricity supply for a HD camera link to the remote nest for essential 24-hour monitoring. Protection of the Osprey nest has led to the first recorded successful breeding of the species in the local area for 400 years. Three osprey chicks hatched in 2011 after the project gave the birds nesting sites close to the railway in the Dyfi area, near Machynlleth. Network Rail have also escorted experts to the site to fit the birds with solar-powered satellite trackers to capture their annual migration to Africa.


Ospreys on the nest at the Dyfi Osprey Project (Photo: Dyfi Osprey Project)

Dyfi Beaver Project

Our Network Rail in Scotland are already involved in successful projects to reintroduce the Beaver to areas where the railway infrastructure crosses land where the Beaver (Castor fiber) has been released. In Wales, our Route Ecologist is in the early stages of talks with the project team of a Beaver reintroduction on in the Dyfi Biosphere. Beavers are known to act as natural engineers creating a natural flood defence. They manage the landscape through building dams and combating flooding as a result. This results in a more resilient landscape. The Eurasian Beaver is smaller than the American beaver, and only targets small streams due to its size.

The Dyfi Beaver project is led by the Wildlife Trust and supported by the Welsh Government. Although at the early stages of project development, Network Rail will work with this project to assist where we can with access to our land for surveys to inform mitigation work (e.g. culverts and vegetation which the Beavers might target for building dams so that tree guards can be installed) and access to land by the project volunteers at crossing points (e.g. access to release sites). By working with the project team, we can safeguard both the ecosystem and the railway.
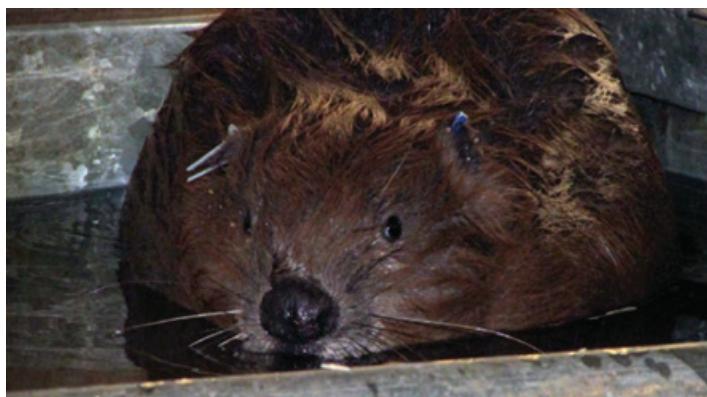
An adult beaver (Photo: Network Rail)

Next steps:

16. Form and maintain working relationships with target stakeholders.

17. Network Rail will continue to support the Dyfi Osprey Project.

18. Wales Route Ecologist to continue discussions with the Dyfi Beaver Project team around the feasibility of the scheme.

Invasive non-native species management

Invasive species project

On the Core Valley Lines (the lines from Cardiff to Treherbert, Aberdare, Merthyr Tydfil, Coryton and Rhymney), our Works Delivery team successfully managed a large-scale invasive species management programme to treat Japanese Knotweed and Himalayan Balsam growing on the lineside, funded by Transport for Wales.

Recently the teams across the business on the Wales Route have visited a pilot project led by 'Advanced Invasives', which aims to 'optimise the physiochemical treatment of Japanese knotweed'. 'Advanced Invasives' undertook a large-scale field project in collaboration with Swansea University, and the test site was visited by Network Rail staff. From this site visit staff gained valuable knowledge which has been subsequently applied to their work to control invasive species across the Wales Route.

We will aim to continue with targeted treatment across the Wales Route utilising the most up to date guidance and techniques in our vegetation management work.

Rhododendron ponticum

Recently we have been contacted by the Snowdonia National Park Authority (SNPA) for permission to access our lineside for the treatment of the invasive species of Rhododendron (Rhododendron ponticum) which is considered an invasive species in this local area. The wet climate of Snowdonia almost perfectly replicates that of the natural environment of this species, therefore Rhododendron has become prevalent and according to the SNPA it covers approximately 2000 hectares in Snowdonia alone. A single large bush can produce one million seeds per year. It can be highly detrimental to biodiversity as it causes excessive shading, thus blocking sunlight to ground flora, and the foliage itself is poisonous to most invertebrates and mammals.

As part of the Celtic Rainforest Wales LIFE Project, treatment of a large section of Rhododendron present on land adjacent to the railway line is required in order to achieve the effective long-term treatment of Rhododendron in this area. The Asset Protection team and Route Ecologist are currently in the early stages of discussions with the Senior Ecologist from SNPA to assist with this project. Network Rail aim to assist with the first stage of the delivery of this project in 2020.

Next steps:

19. Continue our work to tackle non-native invasive species through targeted treatment.

Organisational Licences for European Protected Species

Network Rail have been working with NRW in relation to the options for gaining organisational licences for great crested newts. The time already committed to this project by both Network Rail Ecologists and NRW illustrates how serious Network Rail are to be compliant with legislation in relation to protected species and the pragmatic approach to management that organisational licences would provide.

Over the next year we aim to work proactively to secure an organisational EPS licence from NRW to allow crucial works to maintain the lineside. Once this is secured, we will work towards further EPS licences through working with our colleagues across the business to monitor compliance.

Next steps:

20. Work towards gaining our first organisational licence by the 31st December 2020.

Baseline Ecology surveys

Previously we have undertaken surveys on a project by project basis. However, as part of our CP6 business planning process for vegetation management we commissioned targeted surveys of our lineside vegetation. We will continue to undertake the project-based surveys until the comprehensive baseline is established. These surveys provide a baseline information resource which the Wales Route can use to plan their work and enable compliance with wildlife legislation. By the end of the current Control Period we aim to have a baseline survey of the entire Wales Route which will provide an overarching baseline dataset for habitats and species present.

In addition to this ongoing programme of baseline walkover surveys, the STE team are also procuring modelling of the entire Network Rail owned land (including the Wales Route) to understand the requirements of wildlife in the present and under future climate change events. This work is in progress.

Next steps:

21. Preliminary ecological appraisals to be completed for over 450 miles by end of 2020.

22. All ELRs across Wales will have baseline ecology data completed by the end of Control Period 6 (March 2024).

Service Level Agreement with Aderyn

Network Rail entered into a Service Level Agreement (SLA) with the Wales Biodiversity Records Centres through Aderyn at the beginning of 2019. Aderyn is the Biodiversity Information and Reporting Database of Local Environmental Records Centres Wales, collating all the data held by the four individual records centres into one place. This provides a fantastic wealth of information and intuitive database of biodiversity information.

The Wales Route have utilised this SLA which allows a limited number of licences providing direct access to the biodiversity information to our selected individuals who frequently conduct database searches to support out work. Through supporting the Local Records Centres in Wales through this SLA, this also supports wider efforts towards Biodiversity and nature conservation across the extent of Wales.

Next steps:

23. Network Rail will continue to review the SLA regularly.

Tree Planting

The central STE team have recently secured funding for tree planting in Wales in response to the Varley review. These trees will be planted working with other stakeholders who have an interest in Biodiversity. In addition to this, the Capital Delivery team are currently seeking opportunities for replacement trees planting where trees are being removed from the lineside. The extent of tree planting will be confirmed in the Network Rail BAP that will be published in early 2020.

Wellbeing and improving connection between people and nature

A common theme in the new legislative framework in Wales and that which is included in the Marine Area Profile (published by NRW), is that of the connection between spending time in nature and that of health and wellbeing. The railway provides transportation for the public, with its main ethos being 'putting passengers first'. Connecting cities and rural areas, inland to coastal sites, the railway is in an important route for the public to use to connect people with nature. The beautiful scenery of Wales provides a backdrop for commuters and holiday makers with some of the most breath-taking views in Wales only being seen from the train.

Each member of staff at Network Rail is entitled to five volunteer leave days per annum. We have some enthusiastic members of staff who volunteer their time to environmental proactive work which benefits the communities as well as the environment. For instance, in December 2019 volunteers from the Maintenance and Works Delivery teams volunteered on a beach clean at Penarth with Keep Wales Tidy.

Network Rail volunteers working for Keep Wales Tidy at Penarth beach (Photo: Network Rail)

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Summary of Key objectives

Next steps	Theme	Summary of the objectives
1	Specialist internal capability on the Wales Route	The Wales Route Ecologist to continue communication with the BTP Wildlife Crime Officer for Wales.
2	Specialist internal capability on the Wales Route	The Wales Route to recruit additional internal Ecology support by end of 2020.
3	Network Rail's Biodiversity Action Plan	Network Rail STE to publish the Network Rail Biodiversity Action Plan in early 2020
4	Network Rail's Biodiversity Action Plan	Network Rail to produce the template for the 'Route Level Biodiversity Action Plans' late 2020. Wales Route to publish their BAP in this format by end of 2020.
5	Network Rail's Biodiversity Action Plan	Network Rail to publish overarching Key Performance Indicators by end of 2020.
6	Providing a Green Corridor for Wildlife	Retention of a corridor of vegetation wherever it is practicable to do so.
7	Providing a Green Corridor for Wildlife	Incorporate biodiversity as a priority in our Route Specific Habitat Management Plans. Wales Route to produce their plan by July 2020.
8	Sharing our lineside with Wildlife	Wales Route teams to continue to work with Ecologists to protect the wildlife on the Network Rail estate.
9	Sharing our lineside with Wildlife	Network Rail will look at options to plant wildflower meadows specifically to attract pollinators where it does not be detrimental to other Priority Habitats or Priority and protected species.
10	Use of innovation to avoid negative impacts on Ecology	Improve the knowledge base internally at Network Rail to allow staff to recognise opportunities to enhance biodiversity when programming or project management.
11	Use of innovation to avoid negative impacts on Ecology	Capital Delivery to continue to look at finding innovative solutions to lower the impact of our engineering works on the environment.
12	Use of innovation to avoid negative impacts on Ecology	Ecologists to work with Asset Management team to include ecological requirements.
13	Dealing with the threat of Ash Dieback	The Wales Route Ash Dieback Plan will be published in early 2020.
14	Response to adverse weather events	The Wales Route to continue with the Memorandum of Understanding (MOU) with NRW.
15	The Shoreline Management Plan	The date for publication of the Strategic Network Study is 2020.
16	Engagement with adjacent landowners and key stakeholders	Form and maintain working relationships with the target stakeholders.
17	Engagement with adjacent landowners and key stakeholders	Network Rail will continue to support the Dyfi Osprey Project.
18	Engagement with adjacent landowners and key stakeholders	Wales Route Ecologist to continue discussions with the Dyfi Beaver Project team around the feasibility of the scheme.
19	Invasive non-native species management	Continue our work to tackle non-native invasive species through targeted treatment.
20	Organisational mitigation Licences for European Protected Species	Work towards gaining our first organisational licence by the 31st December 2020.
21	Baseline Ecology surveys	Preliminary ecological appraisals to be completed for over 450 miles by end of 2020.
22	Baseline Ecology surveys	All ELRs across Wales will have baseline ecology data completed by the end of Control Period 6 (March 2024).
23	Service Level Agreement with Aderyn	Network Rail will continue to review the SLA regularly.

List of Acronyms

BAP   Biodiversity Action Plan

CBD   Convention on Biological Diversity

CEFA   Civil Examinations Framework Agreement

CEH   Centre for Ecology and Hydrology

CMSP   Continuous Modular Strategic Planning

CP6   Control Period 6 (2019 – 2024)

DfT   Department for Transport

ELR   Engineering Line Reference

EPS   European Protected Species

GRIP   Governance for Railway Investment Projects

HSE   Health Safety and Environment

IP   Infrastructure Projects

NERC   Natural Environment and Rural Communities (Act)

NRAP   Natural Resources Action Plan

NRW   Natural Resources Wales

SLA   Service Level Agreement

SMNR   Sustainable Management of Natural Resources

SMP   Shoreline Management Plan

SNPA   Snowdonia National Park Authority

SoNaRR   State of Natural Resources Report

STE   Safety, Technical and Engineering (group within Network Rail)

TOC   Train Operating Companies

TPO   Tree Preservation Order

WG   Welsh Government

WRCCA   Weather Resilience and Climate Change Adaptation

WRCCAP   Weather Resilience and Climate Change Adaptation Plan