



UK CAA Biodiversity Report and Plan (Wales) 2024

CAP 3074B

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Chapter 1

Introduction

This publication (CAP 3074B) is the UK Civil Aviation Authority's (CAA) official report in pursuance of its Section 6 duties under the Environment (Wales) Act 2016. The report is set out as follows:

- Chapter 1: An introduction to the CAA and its associated duties under Section 6 of the Environment (Wales) Act 2016.
- Chapter 2: An overview of the CAA Environmental Sustainability Strategy outlining the CAA's future roles as aviation and space regulator to help facilitate the UK aerospace industry's journey to more sustainable operations. Alongside this, an assessment of how this work aligns with the objectives of the Nature Recovery Action Plan for Wales is also provided.
- Chapter 3: An overview of the CAA's existing regulatory functions where biodiversity must be considered, alongside a review of how these functions align with the objectives of the Nature Recovery Action Plan for Wales.
- Chapter 4: CAA review of its duty under Section 6 of the Environment (Wales) Act 2016 and its future reporting plan under this duty.

UK Civil Aviation Authority

The UK Civil Aviation Authority (CAA), established by Parliament in 1972, is the UK's independent aviation regulator and works to ensure that:

- the aviation industry meets the highest safety standards;
- consumers have choice, value for money, are protected and treated fairly when they fly;
- through efficient use of airspace, the environmental impacts of aviation on local communities are effectively managed and CO₂ emissions are reduced; and
- the aviation industry manages security risks effectively.

In 2021 the CAA also became the UK's space regulator, giving it the authority to license space companies under the Space Industry Act 2018 and the Outer Space Act 1989.

The CAA acts within the legal powers given to it by legislation and the UK Government requires that its costs are met from charges to those it provides a service to or regulates. There are several areas within the CAA's regulatory framework where there is a requirement to take account of environmental factors in decision making and some require impacts upon biodiversity to be considered. Further information regarding the CAA's functions in relation to biodiversity is outlined in chapter 3 of this report.

Environment (Wales) Act 2016

Section 6 of the Environment (Wales) Act 2016 introduced an enhanced biodiversity and resilience of ecosystems duty for public authorities when exercising their functions in relation to Wales. The duty, which applies to the CAA, requires that public authorities ‘must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions’. We refer to this duty as the Section 6 duty.

To comply with this duty, public authorities should embed the consideration of biodiversity and ecosystems into their early thinking and business planning, including any policies, plans, programmes and projects, as well as their day-to-day activities. Guidance issued¹ by the Welsh Government suggests that reporting on action under the Section 6 duty should be based on the objectives of the Nature Recovery Action Plan for Wales.²

The objectives of the Nature Recovery Action Plan for Wales are:

- Objective 1: Engage and support participation and understanding to embed biodiversity throughout decision making at all levels.
- Objective 2: Safeguard species and habitats of principal importance and improve their management.
- Objective 3: Increase the resilience of our natural environment by restoring degraded habitats and habitat creation.
- Objective 4: Tackle key pressures on species and habitats.
- Objective 5: Improve our evidence, understanding and monitoring.
- Objective 6: Put in place a framework of governance and support for delivery.

In line with Section 6(5), in discharging the Section 6 duty, the CAA has given regard to the lists of priority species and habitats in Wales, the State of Natural Resources Report for Wales 2020, relevant area statements for Wales and the Agriculture (Wales) Act 2023: Sustainable Land Management Framework.

Section 6(6) requires the CAA to prepare and publish a plan setting out what it proposes to do to comply with the Section 6 duty. Chapter 4 of this report provides further information regarding the CAA’s plan in pursuance of this duty.

Section 6(8) of the Environment (Wales) Act 2016 requires public authorities that published a Section 6 plan to review that plan in the light of their Section 6 report. Public authorities will need to review their actions and report in order to ascertain what has been

¹ [Environment \(Wales\) Act 2016 Part 1 \(gov.wales\)](#)

² [Nature Recovery Action Plan | GOV.WALES](#)

achieved, what needs to be improved, and to make any revisions and improvements to their Section 6 plans and future biodiversity action.

Chapters 2, 3 and 4 of this report aim to fulfil the CAA's obligations with respect to the Section 6 duty by outlining the CAA's activities as they are relevant to biodiversity.

Chapter 2

CAA Environmental Sustainability Strategy

Aviation regulators have a role to play in helping the industry meet its environmental commitments. In order to help facilitate the UK aerospace industry's journey to more sustainable operations, the CAA published its Environmental Sustainability Strategy³ (the Strategy) in May 2022, which sets out how it will work with the whole aviation and aerospace system to improve environmental performance, including its impact upon biodiversity. The Strategy provides those who are regulated, and other stakeholders, with clarity on the CAA's roles, remit and ambition in the short and medium-term, whilst outlining the longer-term nature of climate change alongside the Government and industry's evolving approaches to this. The Strategy identifies seven key strategic areas where the CAA will focus its expertise and leadership:

- Enabling development of low and zero emission novel technologies.
- Co-sponsoring the modernisation of airspace.
- Reporting on the sustainability performance of industry, including noise, and providing information to consumers on the environmental impact of aviation.
- Advising and supporting the UK Government on domestic and international policy.
- Reducing the impact of its own corporate activities and operations.
- Assessing how relevant regulated activities impact the local environment.
- Using its powers and duties to take account of the impact on the environment in its regulation and oversight.

To implement and deliver the Strategy's ambition, the CAA has established an Environmental Sustainability Team that drives and coordinates work across the organisation, and an Environmental Sustainability Panel,⁴ which acts as a 'critical friend' to provide advice and challenge to the CAA. The CAA also has specialist resource in its Innovation Hub, which helps to enable novel technology, and in its Airworthiness and Design & Certification Teams, for safety certification of new aircraft and fuels.

³ [CAA's Environmental Sustainability Strategy | Civil Aviation Authority](#)

⁴ [The CAA's Environmental Sustainability Panel | Civil Aviation Authority](#)

CAA Prioritisation Principle

There are a number of areas in the CAA's regulatory framework where it has a duty to take environmental factors into account when it makes its decisions.

In some areas of the CAA's work, however, there are no explicit targets or guidelines set by Government, or in legislation, to drive down the effects of emissions, noise or other local impacts. Although the CAA always considers the specific facts of any case in its decision-making, it has designed a prioritisation principle to help it take environmental impacts into account where it has discretion to do so.⁵ The principle is applicable across global impacts with a focus on:

1. Mitigating the impact of global warming, with a focus on carbon emissions;
2. Mitigating noise impacts on local communities;
3. Mitigating impacts on tranquil spaces and biodiversity; and
4. Mitigating impacts on air quality and on other environmental elements.

The prioritisation principle is currently under review as part of a refresh of the Environmental Sustainability Strategy. This review is part of a wider exercise the CAA is undertaking regarding its current environmental powers to understand whether these are being applied effectively and whether improvements could be made in this respect to better drive environmental improvements in decision making.

⁵ The CAA will consult with relevant stakeholders regarding the prioritisation principle prior to it being applied in any decision-making process.

Nature Recovery Action Plan for Wales: CAA Environmental Sustainability Strategy

The Strategy has the potential to meet the following objectives of the Nature Recovery Action Plan for Wales (NRAP):

Objective 1: Embed biodiversity in decision-making at all levels

The Strategy outlines the CAA's intended approach to account for environmental effects in areas where there are no explicit targets or guidelines set by Government, or in legislation. This is intended to be discharged via a prioritisation principle which includes mitigating impacts upon biodiversity.

Objective 2: Safeguard and improve the management of key species and habitats

The Strategy outlines how the CAA will work with the aviation and aerospace system to improve environmental performance which may help achieve this objective. The prioritisation principle has the potential to positively influence this also.

Objective 3: Increase resilience of the natural environment

The Strategy outlines how the CAA will work with the aviation and aerospace system to improve environmental performance which may positively influence the resilience of the natural environment. The prioritisation principle has the potential to influence this also.

Objective 4: Tackle key pressures on species and habitats

The Strategy outlines how the CAA will work with the aviation and aerospace system to improve environmental performance which may have the potential to help tackle key pressures on species and habitats. The prioritisation principle may positively influence this also.

Objective 5: Improve evidence, understanding and monitoring

Biodiversity impacts must be understood, evidenced and monitored as part of a number of work-programmes associated with the delivery of the strategy. Areas, such as the Airspace Modernisation Strategy, may require relevant stakeholders to be consulted along with input sought from experts.

Objective 6: Support and governance framework for delivery

The CAA Environmental Sustainability Team drives and coordinates work across the CAA, including ensuring the Section 6 duty is monitored and reviewed. An Environmental Sustainability Panel also acts as a 'critical friend' providing advice and challenge on topics such as biodiversity.

Chapter 3

CAA Biodiversity Considerations

This chapter provides an overview of the CAA's existing functions where biodiversity is a consideration in relation to civil aviation and aerospace in Wales. These include: airspace modernisation, airspace regulation, spaceflight, aerodrome licensing and the environmental certification of aircraft, engines, propellers, parts and non-installed equipment.

This list is not intended to be exhaustive, nor should it be taken as the only legislation and policy that applies to biodiversity in the aviation sector in Wales. The CAA has similar biodiversity duties when exercising its functions in relation to England, Northern Ireland and Scotland. These duties may exist within the context of other duties, including overriding requirements to maintain a high standard of safety, secure public safety or further the interests of consumers. Whilst it must be acknowledged that it may not be possible for a particular CAA function to meet every objective of the Nature Recover Action Plan for Wales, the CAA Environmental Sustainability Strategy, as outlined in Chapter 2, provides an opportunity for the CAA to further its ambitions in this area.

Airspace Modernisation

Airspace is an invisible but vital piece of the UK's national infrastructure. Its basic design has remained unchanged for decades, despite technological advances and increased demand from airspace users. Modernisation is long overdue and is critical to ensure that UK airspace is fit for purpose. In 2017, the Secretary of State for Transport tasked the CAA with preparing and maintaining a coordinated strategy and plan for the use of UK airspace which has now become the Airspace Modernisation Strategy.⁶ The Airspace Modernisation Strategy was refreshed in 2023, extending its focus out to 2040 and together, the CAA and the Department for Transport (DfT) have developed a shared vision for the modernisation of UK airspace. This vision is to deliver quicker, quieter and cleaner journeys alongside more capacity for the benefit of those who use and are affected by UK airspace.

The strategic objectives of the Airspace Modernisation Strategy are categorised under the following four headings:

- Safety
- Integration

⁶ [CAP1711: Airspace Modernisation Strategy 2023–2040 Part 1: Strategic objectives and enablers | Civil Aviation Authority \(caa.co.uk\)](#)

- Simplification
- Environmental Sustainability

To enable the DfT and CAA's shared vision for the modernisation of airspace, the airspace change masterplan⁷ has been developed which is a single, coordinated implementation plan for airspace changes in the UK covering the period to 2040. The CAA and DfT, as co-sponsors of airspace modernisation, commissioned NATS En-Route PLC (NERL) to create the masterplan; however, given the large number of parties involved, NERL was instructed by the co-sponsors to set up a separate and impartial body to coordinate the airspace changes necessary to deliver airspace modernisation and the masterplan. This body is known as the Airspace Change Organising Group (ACOG).⁸

Part of the regulatory framework involves the co-sponsors (CAA and DfT) assessing ACOG's progress to confirm that the masterplan is consistent with the masterplan commission, Government policy and the CAA's own statutory airspace functions.⁹ Based on that assessment, and before the masterplan can be implemented, the CAA must decide to formally 'accept'¹⁰ the masterplan into the Airspace Modernisation Strategy, having consulted the Secretary of State for Transport. Each iteration must be accepted separately, except Iteration 1, which has already been assessed and published. ACOG envisages a minimum of four iterations of the masterplan.¹¹

Given that the geographical coverage of the masterplan is UK-wide,¹² from an environmental perspective the masterplan is subject to a Strategic Environmental Assessment and a Habitats Regulations Assessment. Both assessments must be kept up to date through monitoring as the airspace modernisation programme is developed and implemented. The final airspace designs, and therefore specific environmental impacts at the level¹³ of each individual airspace change proposal, will be considered by the CAA in its environmental assessment at Stage 5 of the CAP 1616 process.¹⁴

Further information regarding the Strategic Environmental Assessment and Habitats Regulations Assessment is detailed below:

⁷ [About the Masterplan | Civil Aviation Authority \(caa.co.uk\)](#)

⁸ [Airspace Change Organising Group \(ACOG\)](#)

⁹ Further information regarding the applicable Government policy and the CAA's statutory functions in relation to airspace is detailed in the Airspace Regulation section below.

¹⁰ [CAP 2156a: Airspace change masterplan - CAA acceptance criteria | Civil Aviation Authority](#)

¹¹ [UK Airspace Change Masterplan Iteration 2](#) is the latest to be accepted by the CAA.

¹² There are no airports in Wales participating in the Masterplan; however, some 'clusters' have the potential to impact Wales. These airspace change proposals can be viewed on the [Airspace Change Portal](#).

¹³ Each permanent airspace change proposal is assigned a 'level' depending on the characteristics of the change and potential for impacts, which is in part based on the altitude and location in which the changes occur. Further information is outlined in [CAP 1616](#).

¹⁴ [CAP1616: The Process for Changing the Notified Airspace Design | Civil Aviation Authority \(caa.co.uk\)](#)

Strategic Environmental Assessment

The Strategic Environmental Assessment is a systematic decision-support process, aiming to ensure that environmental and sustainability impacts are integrated into high-level Government policy, planning and programme making. This assessment is required under the Environmental Assessment of Plans and Programmes Regulations 2004¹⁵ and the CAA is the ‘responsible authority’ for undertaking the assessment as part of the masterplan. This is an ‘upstream’ assessment which complements the more specific ‘downstream’ assessment of environmental impacts carried out for each individual airspace change proposal under the CAP 1616 process.¹⁶ The assessment can be wide-ranging in terms of the scope of environmental impacts and is not confined to noise or emissions. In scope are issues such as biodiversity, human health, soil, water, air, climatic factors, material assets, cultural heritage (including architectural and archaeological heritage), landscapes and the interrelationship between these factors.¹⁷ Effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects. The aim is to influence strategic decisions taken early on, to take account of alternatives and assess the cumulative effects of multiple proposals. When deciding on the scope and level of detail of information that must be included in the Strategic Environmental Assessment, the law requires that certain ‘consultation bodies’ must be consulted. Once scoping is completed, the public, including impacted or interested stakeholders, must be consulted with.

Habitats Regulations Assessment

The Habitats Regulations Assessment refers to the several distinct stages of assessment which must be undertaken in accordance with law on conservation of habitats and species. The assessment is required under the Conservation of Habitats and Species Regulations 2017 (as amended)¹⁸ and the CAA is the ‘competent authority’ for undertaking the assessment for the masterplan. The assessment aims to determine the potential effects of the masterplan on protected sites, known as Natura 2000 sites,¹⁹ in view of the site’s conservation objectives. As the ‘competent authority’, the CAA can only agree to the masterplan after having ascertained that it will not adversely affect the integrity of a protected site, unless there are no alternative solutions and there are imperative reasons of overriding public interest.

¹⁵ [The Environmental Assessment of Plans and Programmes Regulations 2004 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukreg/2004/1616)

¹⁶ See the Airspace Regulation section below for further information regarding the CAP 1616 process.

¹⁷ [Strategic environmental assessment and sustainability appraisal - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/strategic-environmental-assessment-and-sustainability-appraisal)

¹⁸ [The Conservation of Habitats and Species Regulations 2017 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukreg/2017/1751)

¹⁹ [The Natura 2000 protected areas network — European Environment Agency \(europa.eu\)](https://www.eea.europa.eu/en/natura-2000)

Nature Recovery Action Plan for Wales: Airspace Modernisation

The CAA's role and duties with respect to airspace modernisation in Wales meet the following objectives of the Nature Recovery Action Plan for Wales (NRAP):

Objective 1: Embed biodiversity in decision-making at all levels

The CAA is responsible for ensuring that any potential impacts upon biodiversity are considered as part of the Strategic Environmental Assessment and Habitats Regulations Assessment.

Objective 2: Safeguard and improve the management of key species and habitats

As the 'competent authority', the CAA can only accept the final iteration of the masterplan into the AMS after having ascertained that it will not adversely affect the integrity of a protected Natura 2000 site, unless there are no alternative solutions and there are imperative reasons of overriding public interest.

Objective 3: Increase resilience of the natural environment

Not applicable.

Objective 4: Tackle key pressures on species and habitats

As the 'competent authority', the CAA can only accept the final iteration of the masterplan into the AMS after having ascertained that it will not adversely affect the integrity of a protected Natura 2000 site, unless there are no alternative solutions and there are imperative reasons of overriding public interest.

Objective 5: Improve evidence, understanding and monitoring

To improve the use of evidence and understanding, the CAA engages with relevant experts and consults stakeholders on potential biodiversity impacts as a result of airspace modernisation activities.

Objective 6: Support and governance framework for delivery

The CAA is responsible for ensuring that any potential impacts upon biodiversity are considered as part of the Strategic Environmental Assessment and Habitats Regulations Assessment.

Airspace Regulation

The design of UK airspace is published and promulgated in the UK Aeronautical Information Publication.²⁰ Following the separation of regulation and service provision enacted through the Transport Act 2000, the CAA is the regulator for the design of UK airspace, and therefore changes to the design of UK airspace must be approved by the CAA. Changes are proposed by an airspace change sponsor, which is usually an airport or a provider of air navigation services (including air traffic control). The CAA requires the airspace change sponsor of any permanent change to the published airspace design to follow the airspace change process set out in CAP 1616.²¹ Before deciding whether to approve any change, the CAA must consider a range of factors set out in section 70 of the Transport Act 2000 which include safety, security, operational impacts and the environment.²²

Section 70 of the Transport Act 2000 states that after maintaining a high standard of safety in the provision of air traffic services, the CAA must take account of any guidance on environmental objectives given to it by the Secretary of State for Transport when exercising its air navigation functions (among other factors). These functions include deciding whether to approve changes to the design of UK airspace. This guidance is the Air Navigation Guidance 2017.²³

Consideration and assessment of the potential environmental impacts resulting from an airspace change proposal is a necessary part of the CAA's decision-making process, and also enables those who are affected by the proposed airspace change to better understand the impacts of the different design options being considered. In order to achieve this, the CAA requires airspace change sponsors to provide an environmental assessment that evolves through the various stages of the Airspace Change Process, which is considered by the CAA at various 'gateway' stages within the process. For an airspace change that has potential to impact airspace below 7,000 feet, CAP 1616 requires airspace change sponsors to assess the impacts of the change upon noise, local air quality, climate change, tranquillity and biodiversity. The level of analysis is qualitative and where possible, quantitative.

With respect to biodiversity, CAP 1616 requires that sponsors must include in their engagement and consultations the potential implications associated with all design options under consideration and should be mindful of such potential impacts as identified by stakeholders. To illustrate this, airspace change sponsors must use operational diagrams

²⁰ [NATS UK | AIP](#)

²¹ [CAP1616: The Process for Changing the Notified Airspace Design | Civil Aviation Authority \(caa.co.uk\)](#)

²² [Transport Act 2000 \(legislation.gov.uk\)](#)

²³ [Air navigation guidance 2017 \(publishing.service.gov.uk\)](#)

or overflight contours²⁴ to identify any biodiversity receptors overflown below 7,000 feet. Biodiversity receptors include locally identified receptors and Natura 2000 sites, such as:

- Special Areas of Conservation (SAC) and possible SACs;
- Special Protection Areas (SPA) and potential SPAs;
- Ramsar sites (wetlands of international importance) and proposed Ramsar sites; and
- Compensatory habitats (areas secured to compensate for damage to SACs, SPAs and/or Ramsar sites).

Where an airspace change proposal is likely to have an impact on biodiversity, airspace change sponsors must provide explicit consideration of biodiversity, including a Habitats Regulations Assessment where necessary.

The legal duty²⁵ to ensure a Habitats Regulations Assessment is conducted before deciding to approve an airspace change proposal at Stage 5 of CAP 1616. However, it is in the interests of all parties that regard is had to the need to avoid or minimise adverse effects on Natura 2000 sites²⁶ through all stages of the CAP 1616 process. Otherwise, there is a risk that less damaging options will be overlooked; and airspace change proposals could progress all the way to Stage 5 but still fail to secure final approval.

Airspace change sponsors must therefore consider a Habitats Regulations Assessment as part of the development of their design options, options appraisals (Stages 2, 3 and 4), updates to their final design option and final airspace change proposal submission (Stage 4). The overall aim should be to eliminate as many adverse effects on Natura 2000 sites as practicable, prior to the CAA's consideration of the final proposal at Stage 5.

The CAA does not expect change sponsors to rule out options which could avoid adverse effects on the integrity of Natura 2000 sites without good reason. At the same time, it is important to bear in mind that a finding of adverse effects on the integrity of a Natura 2000 site does not necessarily mean that an airspace change proposal cannot proceed to final approval. For example, it may be the case that design options avoiding adverse effects on Natura 2000 sites would not comply with the airspace and infrastructure requirements set out in UK law and policy, the International Civil Aviation Organisation's standards and recommended practices, EUROCONTROL standards, or give rise to unacceptable safety risks. In those circumstances, where the Habitats Regulations Assessment finds that adverse effects cannot be avoided completely, and there are no alternative solutions available, then the airspace change proposal must be supported by justification to

²⁴ [CAP 1498](#) provides the CAA's definition of overflight relating to airspace regulation.

²⁵ Under [The Conservation of Habitats and Species Regulations 2017 \(as amended\)](#).

²⁶ [The Natura 2000 protected areas network — European Environment Agency \(europa.eu\)](#)

demonstrate there are imperative reasons of overriding public interest why it should nevertheless proceed.

In order to ascertain whether an airspace change proposal is likely to have a significant effect on a Natura 2000 site (and therefore whether an appropriate assessment of the potential adverse effects of the proposal on that site is needed), airspace change sponsors must undertake a screening exercise. The CAA has developed early screening criteria for airspace change sponsors to use to check whether an airspace change proposal is likely to have a significant effect on a Natura 2000 site. Appendix I outlines the early screening criteria²⁷ sponsors must answer.

The answers to the questions in the early screening criteria form must include robust rationale supported with appropriate evidence. The CAA may require additional evidence from the airspace change sponsor. If an airspace change sponsor concludes that a Habitats Regulations Assessment is not necessary, and the CAA accepts that rationale, that same rationale plus the supporting evidence must be clearly explained in any consultation material and in the final airspace change proposal submitted to the CAA.

Airspace change proposals that are currently in process and have potential to impact areas in Wales can be viewed on the CAA's Airspace Change Portal.²⁸

²⁷ For the purposes of these early screening criteria, the zone of influence for potential impacts on Natura 2000 sites relates to flights at an altitude of 3,000 feet and below, and within 18 kilometres of a runway end.

²⁸ [Airspace Change Portal: Airspace Change Proposals which may impact Wales](#)

Nature Recovery Action Plan for Wales: Airspace Regulation

The CAA's role and duties with respect to airspace regulation in Wales meet the following objectives of the Nature Recovery Action Plan for Wales (NRAP):

Objective 1: Embed biodiversity in decision-making at all levels

Impacts upon biodiversity must be considered and assessed for all airspace change proposals which have the potential to impact airspace below 7,000 feet. The CAA must take account of these impacts as part of its decision-making process when deciding whether to approve a change.

Objective 2: Safeguard and improve the management of key species and habitats

A Habitats Regulations Assessment (HRA) may be required as part of an ACP, for which the CAA is the competent authority. Sponsors must consider an HRA during the development of an ACP to eliminate as many adverse effects on Natura 2000 sites as is practicable.

Objective 3: Increase resilience of the natural environment

Not applicable.

Objective 4: Tackle key pressures on species and habitats

An HRA may be required as part of an ACP, for which the CAA is the competent authority. Sponsors must consider an HRA during the development of an ACP to eliminate as many adverse effects on Natura 2000 sites as is practicable.

Objective 5: Improve evidence, understanding and monitoring

To improve the use of evidence and understanding of biodiversity impacts, the CAA engages with relevant experts and stakeholders are consulted with as part of the ACP process. Biodiversity assessments must be kept up to date throughout the development of an ACP.

Objective 6: Support and governance framework for delivery

The CAA is responsible for ensuring that biodiversity is considered as part of its decision-making process for ACPs that have potential to impact airspace below 7,000 feet. Biodiversity assessments must be kept up to date throughout the development of an ACP.

Spaceflight

In 2021, the CAA became the UK's independent spaceflight regulator, giving it the authority to licence UK spaceflight activities under the Space Industry Act 2018 and the Outer Space Act 1989. Section 11 of the Space Industry Act 2018²⁹ states that the regulator (CAA) has a duty to take account of an Assessment of Environmental Effects submitted as part of an application for a spaceport or launch operator licence when deciding whether to grant the licence or impose any conditions on the licence. Under Section 2(2)(e) of the Space Industry Act 2018, when exercising its functions with regard to spaceflight activities, the CAA must take account of any environmental objectives set by the Secretary of State for Transport. These objectives include minimising emissions contributing to climate change; protecting human health and the environment from the impacts of emissions on local air quality arising from spaceflight activities; the protection of people and wildlife³⁰ from the impacts of noise from spacecraft activities; and the protection of the marine environment from the impacts of spaceflight activities. The Secretary of State has issued guidance³¹ on how the regulator (the CAA) should interpret the environmental objectives when assessing applications. Impacts upon biodiversity must be accounted for within these assessments, as follows:

Air Quality

The adverse impacts of poor local air quality on ecological receptors due to emissions from spaceflight activities should be identified and conservation objectives taken into account within the Assessment of Environmental Effects. Ecological receptors include:

- Internationally designated sites – Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites;
- Nationally designated sites – Sites of Special Scientific Interest (SSSIs), Areas of Special Scientific Interest (ASSIs), Marine Conservation Zones (MCZs), Marine Protected Areas (MPAs), National Nature Reserves, local nature sites such as local wildlife sites, ancient woodlands and national and local nature reserves; and
- Protected or priority habitats and species.

When deciding whether to grant the licence or impose any conditions on the license, the CAA should ensure that the applicant's Assessment of Environmental Effects takes into account the CAA's obligations relating to the conservation of nationally and internationally important habitats and species where relevant. This should include considering whether

²⁹ [Section 11 Space Industry Act 2018](#)

³⁰ The impacts on domesticated animals and livestock should be considered alongside wildlife.

³¹ [Guidance to the regulator on environmental objectives relating to the exercise of its functions under the Space Industry Act 2018 \(publishing.service.gov.uk\)](#)

the pollutant emissions from the proposed activities are compliant with the environmental standards for habitats in Wales as appropriate. To assess the significance of the emissions that could affect ecological receptors, these emissions should be compared to the relevant statutory air quality standards and environmental standards (for protected conservation areas) for all pollutants emitted.³²

Opportunities to improve air quality and mitigate against any significant effects should also be identified. For example, this could include outlining opportunities to incorporate biodiversity improvements and environmental enhancement (environmental net gain) as part of the submission.

Noise

Spaceflight activities, for both vertical and horizontal launches, have the potential to create significant noise events as they take off and pass overhead. Noise is therefore anticipated to be one of the biggest environmental concerns for impacts upon wildlife receptors. In seeking to mitigate the adverse effects of noise, applicants should follow the hierarchy of noise control when considering the design and operation of a spaceport.³³ When deciding whether to grant the licence or impose any conditions on the licence the CAA should ensure that all reasonable steps have been taken by operators to mitigate and minimise the adverse effects of noise events on human health and sensitive receptors.

Marine Environment

Spaceflight activities have the potential to impact the marine environment through two primary channels: the development of spaceports along coastal areas, and through launch operations. The latter may result in components of the launch vehicle being jettisoned³⁴ into national and/or international waters. These activities can lead to adverse impacts on marine ecology and biodiversity. As a result, the Secretary of State for Transport has set an environmental objective for the regulator to 'protect the marine environment from the impacts of spaceflight activities'. To meet this objective, the Secretary of State's guidance to the regulator on environmental objectives outlines what spaceport and launch operator applicants should consider within their respective Assessment of Environmental Effects.

The guidance notes that public authorities have a duty to make decisions in accordance with marine policy documents where proposed activities are in, or impact, the marine environment. The Marine Policy Statement (MPS) is a combined policy statement from across the UK which sets high-level marine environmental objectives for 'clean, healthy, safe, productive and biologically diverse oceans and seas'. It facilitates and supports the formulation of marine plans to ensure marine resources are used in a sustainable way and

³² [Natural Resources Wales / Find protected areas of land and sea](#)

³³ Further information available on page 20 of [guidance to the regulator on environmental objectives relating to the exercise of its functions under the Space Industry Act 2018 \(publishing.service.gov.uk\)](#).

³⁴ Jettisoned is the term given to parts of a spacecraft that are intentionally detached from the main body during flight. Depending on the stage of flight these parts may fall back to earth or remain in space.

puts into practice the aforementioned objectives. Marine plans inform and guide marine users and regulators to encourage the sustainable development of marine industries or industries that can impact the marine environment, alongside the need to conserve and protect marine species and habitats.

With respect to activities that may impact the marine environment in Wales, the CAA should ensure that the Assessment of Environmental Effects for spaceport or launch operator applications conform with all relevant policies of the Welsh National Marine Plan,³⁵ taking account of economic, environmental and social considerations, demonstrating how the proposals will contribute to achieving the objectives of this plan.

Where marine plans adjoin the geographic area of another sovereign state or affect another sovereign state's waters, consideration should be made to that state's requirements and obligations on the management of the marine area. The CAA should therefore ensure that any marine environmental assessment takes into account other UK devolved administrations' marine plans³⁶ and/or international obligations³⁷ associated with the location of the proposed activities and that such assessments demonstrate how the applicant's proposals are in line with this.

Depending on the proposed activity, the CAA should ensure that the Assessment of Environmental Effects includes:

- For jettisoned objects, that any marine environmental assessment considers the likely effects of these objects reaching the marine environment, over a specified period of time, for a range of likely debris types on the basis of the launch vehicle and trajectories proposed.
- For spaceports located along the coast, consideration of the likely effects of the operation of the spaceport on the marine environment including the shoreline, estuaries, tidal areas and all internal waters as well as the sea. Where significant effects are identified, proposals to mitigate against these effects must be included.

Habitats Regulations Assessment

Under the Conservation of Habitats and Species Regulations 2017 (as amended) the CAA is the 'competent authority' for undertaking a Habitats Regulations Assessment before deciding whether to approve a spaceport or launch operator licence. The assessment aims to determine the potential effects of the application on protected sites, known as Natura

³⁵ [Welsh National Marine Plan | GOV.WALES](#)

³⁶ The following marine plans cover the UK: 11 identified [marine plans in England](#), [Scotland's National Marine Plan](#), [Welsh National Marine Plan](#) and Northern Ireland are currently drafting their marine plan. The [Marine Information System](#) (MIS) provides information on England's marine plans and their policies.

³⁷ Including but not limited to the [London Protocol](#), the [OSPAR Convention](#) and the [United Nations Convention on the Law of the Sea](#).

2000 sites,³⁸ in view of the site's conservation objectives. When undertaking a Habitats Regulations Assessment in relation to Wales the CAA must consult with Natural Resources Wales.

³⁸ [The Natura 2000 protected areas network — European Environment Agency \(europa.eu\)](https://european-council.europa.eu/media/en/press-communications/infographic/infographic_natura2000_proTECTED_areas_network_en.pdf)

Nature Recovery Action Plan for Wales: Spaceflight

The CAA's role and duties with respect to regulating spaceflight activities in Wales meet the following objectives of the Nature Recovery Action Plan for Wales (NRAP):

Objective 1: Embed biodiversity in decision-making at all levels

Biodiversity is considered part of the CAA's decision-making process when deciding whether to grant a spaceport or launch operator licence.

Objective 2: Safeguard and improve the management of key species and habitats

Potential impacts upon biodiversity must be assessed as part of the Assessment of Environmental Effects for spaceport or launch operator license applications. Where significant effects are identified, proposals to mitigate against these impacts must be included in the application.

Objective 3: Increase resilience of the natural environment

Not applicable.

Objective 4: Tackle key pressures on species and habitats

Potential impacts upon biodiversity must be assessed as part of the Assessment of Environmental Effects for spaceport or launch operator license applications. Where significant effects are identified, proposals to mitigate against these impacts must be included in the application.

Objective 5: Improve evidence, understanding and monitoring

To improve the use of evidence and understanding of biodiversity impacts, the CAA publicly consults on each Assessment of Environmental Effects.

Objective 6: Support and governance framework for delivery

The CAA is responsible for ensuring that biodiversity impacts are accounted for as part of a spaceport / launch operators' Assessment of Environmental Effects. In addition, as the 'competent authority' the CAA must undertake a Habitats Regulations Assessment as part of the application.

Aerodrome Licensing

The Air Navigation Order 2016 requires that, in the UK, most flights for the public transport of passengers take place at a licensed aerodrome, or at a Government aerodrome. It also makes provision for an applicant to be granted an aerodrome licence subject to such conditions as the CAA thinks fit. The CAA uses CAP 168 Licensing of Aerodromes³⁹ in support of granting an aerodrome licence in accordance with Article 212 of the Air Navigation Order (ANO) 2016. It is the responsibility of the CAA to ensure that holders of an aerodrome licence are suitable and competent persons to exercise the privileges of the licence.

The purpose of CAP 168 is to give guidance to applicants and licence holders on the procedure for the issue of, continuation of, or variation to, an aerodrome licence issued under Article 212 of the Air Navigation Order 2016. The CAA must be satisfied that the applicant for, or holder of, an aerodrome licence has control over or access to the operational areas of the aerodrome in order for them to meet their obligations under the Air Navigation Order 2016.

Whilst reference to environmental considerations is limited within CAP 168 there are requirements relating to the safety oversight and management of aerodromes that may impact biodiversity. These considerations are relevant to the following areas:

Adverse Weather

Chapter 3 of CAP 168 outlines requirements relating to aerodrome surface conditions and procedures that must be followed when the surface is affected by winter contaminants, such as snow and ice. CAP 168 Appendix 3G: 'care of pavements during winter conditions – improving surface friction by removal of contaminants' contains guidance only on the effectiveness of chemicals such as anti-icers and de-icers. Guidance on managing any environmental impacts that may arise as a result of these chemicals being used is not provided by the CAA but it is advised that aerodromes comply with any environmental requirements set by relevant authorities.

The requirements of Assimilated Regulation (EU) No. 139/2014 are applicable to UK certified aerodromes. The Acceptable Means of Compliance for Operations in winter conditions (AMC1 ADR.OPS.B.035) included within this regulation states the following: 'The aerodrome operator should, as adequate, avoid harmful effects on environment, aircraft or pavements when using chemicals to remove snow, slush, ice, and other contaminants from operational surfaces'. As part of its oversight, the CAA seeks evidence that an aerodrome has considered this.

³⁹ [CAP 168 Licensing of Aerodromes \(caa.co.uk\)](https://www.caa.co.uk)

Wildlife Hazard Management

All aerodromes are required to implement a wildlife hazard management plan. These requirements are outlined in Chapter 5 of CAP 168 which stem from Assimilated Regulation (EU) No. 139/2014 Article 10 and the Acceptable Means of Compliance and Guidance Material for Wildlife strike hazard reduction (AMC1 and GM1 to GM4 ADR.OPS.B.020).

CAP 772 'Wildlife Hazard Management at Aerodromes'⁴⁰ provides guidance to aerodromes on assessing and managing risks, including habitat management, to maintain an environment which is unattractive to birds and other wildlife. It also gives advice on managing the off-airfield environment and monitoring the impacts of wildlife hazards in the vicinity of an aerodrome.

The document advises aerodromes operating adjacent to, or in close proximity to, designated nature conservation sites to discuss their bird/wildlife control management plans with the relevant conservation agency (Natural Resources Wales in Wales) to ensure that any activities carried out meet the requirements of the relevant environmental legislation.

Rescue and Fire Fighting Service

Paragraph 8.7 of CAP 168 notes that the effects on the environment of Rescue and Fire Fighting Service activities should be considered and mitigated wherever possible. The main areas of concern the Rescue and Fire Fighting Service should consider in this respect are water and media run-off, and air quality, both of which may have consequential impacts upon biodiversity.

⁴⁰ [CAP 772: Wildlife Hazard Management at Aerodromes | Civil Aviation Authority \(caa.co.uk\)](https://www.caa.co.uk/cap772)

Nature Recovery Action Plan for Wales: Aerodrome Licensing

The CAA's role and duties with respect to aerodrome licensing in Wales meet the following objectives of the Nature Recovery Action Plan for Wales (NRAP):

Objective 1: Embed biodiversity in decision-making at all levels

The CAA advises that aerodromes must comply with any relevant environmental legislation to avoid harmful effects. The CAA requires evidence to show this has been considered by an aerodrome.

Objective 2: Safeguard and improve the management of key species and habitats

The CAA advises aerodromes in Wales operating near designated nature conservation sites to discuss wildlife control management plans with Natural Resources Wales. The CAA also advises aerodromes to comply with any relevant environmental legislation to avoid harmful effects.

Objective 3: Increase resilience of the natural environment

Not applicable.

Objective 4: Tackle key pressures on species and habitats

The CAA does not provide guidance on environmental impacts from chemicals used to ensure the safe operation of aerodromes; however, the CAA advises that aerodromes must comply with any relevant environmental legislation to avoid harmful effects.

Objective 5: Improve evidence, understanding and monitoring

The CAA advises that aerodromes must comply with any relevant environmental legislation to avoid harmful effects. The CAA requires evidence to show this has been considered by an aerodrome.

Objective 6: Support and governance framework for delivery

The CAA advises aerodromes in Wales operating near designated nature conservation sites to discuss wildlife control management plans with Natural Resources Wales. The CAA also advises aerodromes to comply with any relevant environmental legislation to avoid harmful effects.

Environmental Certification of Aircraft, Engines, Propellers, Parts and Non-Installed Equipment

Annex 16 to the Convention on International Civil Aviation outlines Standards and Recommended Practices (SARPs) that relate to environmental protection. As a Member State of the International Civil Aviation Organisation,⁴¹ the UK has agreed to collaborate with other Member States to improve the level of environmental protection in relation to these SARPs. There are currently four volumes to Annex 16:

- Volume I – Aircraft Noise;
- Volume II – Aircraft Engine Emissions;
- Volume III – Aeroplane CO₂ emissions; and
- Volume IV – Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

These volumes are incorporated into UK legislation under Article 9(2) of Assimilated Regulation (EU) 2018/1139 which, for the purpose of type and airworthiness certification, requires aircraft and their engines, propellers, parts, and non-installed equipment to comply with the relevant environmental protection requirements of Volume I, II and III of Annex 16 to the Convention on International Civil Aviation. This requirement is further ratified in Assimilated Regulation (EU) No 748/2012 which outlines that the responsibility for the issuance of a type-certificate and airworthiness certificate in the UK sits with the CAA.

Whilst these environmental standards do not directly relate to biodiversity, the standard to which aircraft and their engines, propellers, parts, and non-installed equipment conform may have a consequential impact upon the health of flora and fauna.

⁴¹ [The ICAO Council](#)

Nature Recovery Action Plan for Wales: Environmental Certification

The CAA's role and duties with respect to type and airworthiness certification in Wales meet the following objectives of the Nature Recovery Action Plan for Wales (NRAP):

Objective 1: Embed biodiversity in decision-making at all levels

Not applicable.

Objective 2: Safeguard and improve the management of key species and habitats

Not applicable

Objective 3: Increase resilience of the natural environment

Not applicable.

Objective 4: Tackle key pressures on species and habitats

Aircraft and their parts' compliance against the most modern environmental protection Standards of Volume I, II and III of Annex 16 to the Convention on International Civil Aviation have the potential to reduce flora and fauna's exposure to potentially harmful impacts when compared to older Standards.

Objective 5: Improve evidence, understanding and monitoring

Not applicable.

Objective 6: Support and governance framework for delivery

Not applicable.

Chapter 4

CAA Biodiversity Plan and Future Review

Section 6(8) of the Environment (Wales) Act 2016 requires public authorities that published a Section 6 plan to review that plan in light of their Section 6 report. Public authorities will need to review their actions and report in order to ascertain what has been achieved, and what needs to be improved, to make any revisions and improvements to their Section 6(6) plans and future biodiversity action.

Guidance⁴² issued by the Welsh Government notes that this requirement is for each public authority to determine for their own internal improvement processes and this may take place after the Section 6(7) report has been published. The guidance notes that if the review is not taking place at this point, the report should outline how and when this will be conducted and how the review will be incorporated into the Section 6(6) plan.

As detailed in Chapter 3 of this document, there are numerous areas within the CAA's regulatory framework where there is a requirement to take account of environmental factors in decision-making and some require impacts upon biodiversity to be considered. The review undertaken within this publication detailing how these areas align with the six objectives of the Nature Recovery Action Plan for Wales shows that some regulatory areas are better aligned to its objectives compared to others.

Whilst it must be acknowledged that it may not be possible for a particular CAA function to meet every objective of the Nature Recover Action Plan for Wales (e.g. due to overriding requirements to maintain a high standard of safety, secure public safety or further the interests of consumers), the CAA Environmental Sustainability Strategy provides an opportunity for the CAA to further its ambitions in this area. It outlines how the CAA will work with the whole aviation and aerospace system to improve environmental performance, including its impact upon biodiversity. Chapter 2 of this document outlines that the deliverables of the strategy have the potential to meet all six objectives of the Nature Recovery Action Plan for Wales; however, as the strategy was only published in 2022 aspects of its delivery remain in the formative stages. The CAA will therefore provide a more detailed assessment of how the strategy and its associated deliverables align with the objectives of the Nature Recovery Action Plan in due course. This will allow time for the deliverables of the strategy to mature and become embedded within the organisation's business as usual operations, allowing the CAA to ascertain what has been achieved, and what needs to be improved, with respect to its commitments under Section 6 of the Environment (Wales) Act 2016.

⁴² [Environment \(Wales\) Act 2016 Part 1 \(gov.wales\)](#)

APPENDIX I

Habitats Regulations Assessment

CAP 1616 Early Screening Criteria

Q1. Are there any changes to air traffic patterns or number of movements expected below 3,000 feet due to the airspace change proposal?

- If the answer to Q1 is 'no' then habitats regulations assessment is no longer required.
- If the answer to Q1 is 'yes' then proceed to Q2 below.

Q2A. Are there any Natura 2000 sites within a radius of 18 km of each runway end?

Q2B. Are any Natura 2000 sites identified in Q2A overflown (i.e. plane passing directly overhead or within 2,655 feet of the boundary of a Natura 2000 site at 3,000 feet or below) by proposed flight routes?⁴³

- If the answer to Q2A and Q2B are both 'no' then habitats regulations assessment is no longer required.
- If the answer to Q2A or Q2B is 'yes' then proceed to Q3 below.

Q3A Will the airspace change proposal reduce the number of movements overflying one or more Natura 2000 sites, while not increasing them over another?⁴⁴

Q3B Will the airspace change proposal increase the altitude of aircraft overflying one or more Natura 2000 sites, whilst not decreasing altitude over another?

- If the answer to Q3A and Q3B are both 'yes' then habitats regulations assessment is no longer required.
- If the answer to Q3A or Q3B is 'no' then secondary screening will be required.

⁴³ [CAP 1498](#) provides the CAA's definition of overflight relating to airspace regulation. Adopting this definition, for a 48.5° elevation angle threshold, overflight would be experienced from any aircraft flying at a height of 3,000 feet and within a lateral distance of approximately 2,655 feet from the boundary of a Natura 2000 site.

⁴⁴ In the event that more than one Natura 2000 site is overflown, consideration must be given to whether or not changes are positive, remain the same or are negative at each individual location. A habitats regulations assessment can only be screened out where there is no change or where there is benefit to all relevant Natura 2000 sites.