UK Civil Aviation Authority

UK CAA Biodiversity Report (Scotland) 2024

CAP 3074A

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Chapter 1

Introduction

This publication (CAP 3074A) is the UK Civil Aviation Authority's (CAA) official report in pursuance of its duties under the Nature Conservation (Scotland) Act 2004. The report is set out as follows:

- Chapter 1: An introduction to the CAA and its associated duties under the Nature Conservation (Scotland) Act 2004.
- 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.
- Chapter 3: An overview of the CAA's existing regulatory functions where biodiversity must be considered.
- Chapter 4: CAA review of its duty under the Nature Conservation (Scotland) Act 2004 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 CO_2 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.

Nature Conservation (Scotland) Act 2004

Section 1 of the Nature Conservation (Scotland) Act 2004 introduced a duty for every public body, in exercising any functions in Scotland, 'to further the conservation of biodiversity so far as is consistent with the proper exercise of those functions'. In complying with this duty, which applies to the CAA, public bodies must have regard to Scotland's Biodiversity Strategy 2022-2045[1] and the United Nations (UN) Environmental Programme Convention on Biological Diversity as of 5 June 1992.[2]

Section 2A of the Nature Conservation (Scotland) Act 2004 requires that public bodies must prepare and publish a biodiversity report detailing the actions taken in pursuance of its duty under Section 1 during the period to which the report relates. Reports must be published every three years of the date on which a report was last published by the body.

Reports published by public bodies can be prepared in such form and published in such manner as the body thinks fit, and may be incorporated within another report prepared or published by the body.

Chapters 2, 3 and 4 of this report aim to fulfil the CAA's obligations with respect to its duties under the Nature Conservation (Scotland) Act 2004.

[1] Scotland's Biodiversity Strategy 2022-2045 | NatureScot

[2] As amended from time to time (or any United Nations Convention replacing that Convention).

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 Strategy[3] (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 proposed 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.

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 Scotland. 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 Scotland. The CAA has similar biodiversity duties when exercising its functions in relation to England, Northern Ireland and Wales. 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 further the conservation of biodiversity so far as is consistent with the proper exercise of its functions, 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 masterplan[7] 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, from an environmental perspective the masterplan is subject to a Strategic Environmental Assessment and a Habitats Regulations Appraisal. 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 level[12] of each individual airspace change proposal, will be considered by the CAA in its environmental assessment at Stage 5 of the CAP 1616 process.[13]

Further information regarding the Strategic Environmental Assessment and Habitats Regulations Appraisal 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] 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.

[13] 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 2004[14] 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.[15] 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.[16] 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 Appraisal

The Habitats Regulations Appraisal 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 (Natural Habitats, &c.) Regulations 1994[17] 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,[18] 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.

[14] The Environmental Assessment of Plans and Programmes Regulations 2004 (legislation.gov.uk)

[15] See the Airspace Regulation section below for further information regarding the CAP 1616 process.

[16] Strategic environmental assessment and sustainability appraisal - GOV.UK (www.gov.uk)

[17] The Conservation (Natural Habitats, &c.) Regulations 1994

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

Airspace Regulation

The design of UK airspace is published and promulgated in the UK Aeronautical Information Publication.[19] 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.[20] 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.[21]

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.[22]

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

[19] NATS UK | AIP

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

[21] Transport Act 2000 (legislation.gov.uk)

[22] Air navigation guidance 2017 (publishing.service.gov.uk)

or overflight contours[23] 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 Appraisal where necessary.

The legal duty[24] to ensure a Habitats Regulations Appraisal 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 sites[25] 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 Appraisal 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 Appraisal 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 demonstrate there are imperative reasons of overriding public interest why it should nevertheless proceed.

[23] CAP 1498 provides the CAA's definition of overflight relating to airspace regulation.

[24] Under The Conservation (Natural Habitats, &c.) Regulations 1994 (legislation.gov.uk)

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

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 criteria[26] 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 Appraisal 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 Scotland can be viewed on the CAA's Airspace Change Portal.[27]

[26] 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.

[27] Airspace Change Portal: Airspace Change Proposals which may impact Scotland

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 2018[28] 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 wildlife[29] 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 guidance[30] on how the regulator (the CAA) should interpret the environmental objectives when assessing applications. Impacts upon biodiversity must be accounted for within the Assessment of Environmental Effects, 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

[28] Section 11 Space Industry Act 2018

[29] The impacts on domesticated animals and livestock should be considered alongside wildlife.

[30] 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 Scotland 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.[31]

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.[32] 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 jettisoned[33] 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

[31] Protected areas | NatureScot

[32] 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).

[33] 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 Scotland, the CAA should ensure that the Assessment of Environmental Effects for spaceport or launch operator applications conform with all relevant policies of Scotland's National Marine Plan,[34] 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 plans[35] and/or international obligations[36] 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 Appraisal

Under the Conservation (Natural Habitats, &c.) Regulations 1994 the CAA is the 'competent authority' for undertaking a Habitats Regulations Appraisal 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 2000

[34] Scotland's National Marine Plan - gov.scot (www.gov.scot)

[35] 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.

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

sites,[37] in view of the site's conservation objectives. When undertaking a Habitats Regulations Appraisal in relation to Scotland the CAA must consult with NatureScot.

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

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 Aerodromes[38] 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.

[38] CAP 168 Licensing of Aerodromes (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'[39] 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 (NatureScot in Scotland) 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.

[39] CAP 772: Wildlife Hazard Management at Aerodromes | Civil Aviation Authority (caa.co.uk)

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,[40] 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 CO_2 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.

[40] The ICAO Council

Chapter 4

CAA Biodiversity Plan and Future Review

Section 1 of the Nature Conservation (Scotland) Act 2004 introduced a duty for every public body, in exercising any functions in Scotland, 'to further the conservation of biodiversity so far as is consistent with the proper exercise of those functions'. In complying with this duty, which applies to the CAA, public bodies must have regard[41] to Scotland's Biodiversity Strategy 2022-2045[42] and the United Nations (UN) Environmental Programme Convention on Biological Diversity as of 5 June 1992.[43]

Section 2A of the Nature Conservation (Scotland) Act 2004 requires that public bodies must prepare and publish a biodiversity report[44] detailing the actions taken in pursuance of its duty under Section 1 during the period to which the report relates. Reports must be published every three years of the date on which a report was last published by the body.

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 the impacts upon biodiversity to be considered. The consideration of biodiversity within these regulatory frameworks may exist in the context of other duties, including the overriding requirements to maintain a high standard of safety, secure public safety or further the interests of consumers. It may therefore not always be possible to further the conservation of biodiversity in this respect due to competing factors.

Whilst it must be acknowledged that it may not be possible for a particular CAA function to further the conservation of biodiversity due to overriding factors, the CAA Environmental Sustainability Strategy ('the Strategy') provides an opportunity for the CAA to further its ambitions in this area and thus further meet its duty under Section 1 of the Nature Conservation (Scotland) Act 2004. As detailed in Chapter 2 of this document, the Strategy outlines how the CAA will work with the whole aviation and aerospace system to improve environmental performance, including its impact upon biodiversity.

As the Strategy was only published in 2022, the CAA will undertake a further review of the effectiveness of the Strategy's deliverables against the Section 1 duty once it has matured and become embedded within the organisation's business as usual operations. This will allow the CAA to ascertain what has been achieved, and what needs to be improved, with respect to its obligations under the Nature Conservation (Scotland) Act 2004.

[41] The CAA has had regard to these requirements in pursuance of this duty.

[42] Scotland's Biodiversity Strategy 2022-2045 | NatureScot

[43] As amended from time to time (or any United Nations Convention replacing that Convention).

[44] This report (CAP 3073A) aims to fulfil this duty.

APPENDIX I

Habitats Regulations Appraisal

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 appraisal 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?[45]

- If the answer to Q2A and Q2B are both 'no' then habitats regulations appraisal 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?[46]

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 appraisal is no longer required.
- If the answer to Q3A or Q3B is 'no' then secondary screening will be required.

[45] 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.

[46] 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 appraisal can only be screened out where there is no change or where there is benefit to all relevant Natura 2000 sites.