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# **Environmental Impact Assessment Record of Determination**

## **A9 Mound Sluices: Arches 3-6 Timber Replacement**

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# Project Details

## Description

BEAR Scotland has been commissioned by Transport Scotland to carry out full refurbishment of the A9 Mound Sluices structure.

The A9 Mound Sluices is a structure located parallel to the A9 carriageway bridge, constructed to separate the River Fleet from the sea. The structure was built by Thomas Telford and consists of six masonry arches, each containing two wooden sluice gates to make twelve gates in total. Two winch houses and a small storage building are present adjacent to the bridge. The sluice gates prevent the ingress of sea water at high tide and allow fresh water from the River Fleet to flow out as the tide falls.

Refurbishment works on the structure started in 2021, with the refurbishment of four gates (arches 1-2), repointing of the structure and repair works to both winch houses. In 2025, a concrete apron slab downstream of arches 4-6 was reinforced to create a temporary dry-working area during periods of low tide. Works in 2025 also included the installation of a new galvanised/ stainless steel access ladder to the upstream north wing wall; the installation of angle steelwork for stop board (logs) to the upstream entrances of arches 3-6; and repairs and refurbishment of the winch houses and storage building.

Works in 2026 will involve the gate and pointing refurbishment to arches 3 to 6. This involves the replacement of all timberworks to arches 3 to 6; and the repointing of the external faces and the arch (3-6) internal faces. A maximum of two arches will be closed at any one time, with arches 3-4 completed first, followed by arches 5-6. The proposed works will involve in-water works and will utilise the concrete apron slabs on both upstream and downstream sides of the sluices.

The proposed refurbishment works have been condensed, with all four remaining arches (3-6) planned to be completed in 2026 (as opposed to two in 2026 and two in 2027). This is due to the poor condition of the arches and concerns that the gates could fail leading to the potential for significant flooding issues upstream. The proposal to refurbish the four remaining arches in 2026 has been approved by NatureScot.

In-water works will be undertaken from June to September (inclusive) as agreed with NatureScot. As such, the works are programmed to begin on 1<sup>st</sup> of June 2026 and last up to 4 months, utilising the whole approved works window. The works will be undertaken during daytime working hours, with in-water works undertaken during the

low tide. The site compound will be situated in the Highland Council car park located to the west of the A9 Mound Sluices structure with no requirement for traffic management (TM) on the A9. It is anticipated that the car park will be closed to allow for material storage and welfare compound, following approval from Highland Council. Access to residential properties north of the sluices will be maintained.

## Location

The scheme is located adjacent to the A9 carriageway at the mouth of the River Fleet, 5.3km south of Golspie in the Highland Council Local Authority area (Figure 1). The National Grid Reference (NGR) for the centre point of the sluices is NH 77544 98217.

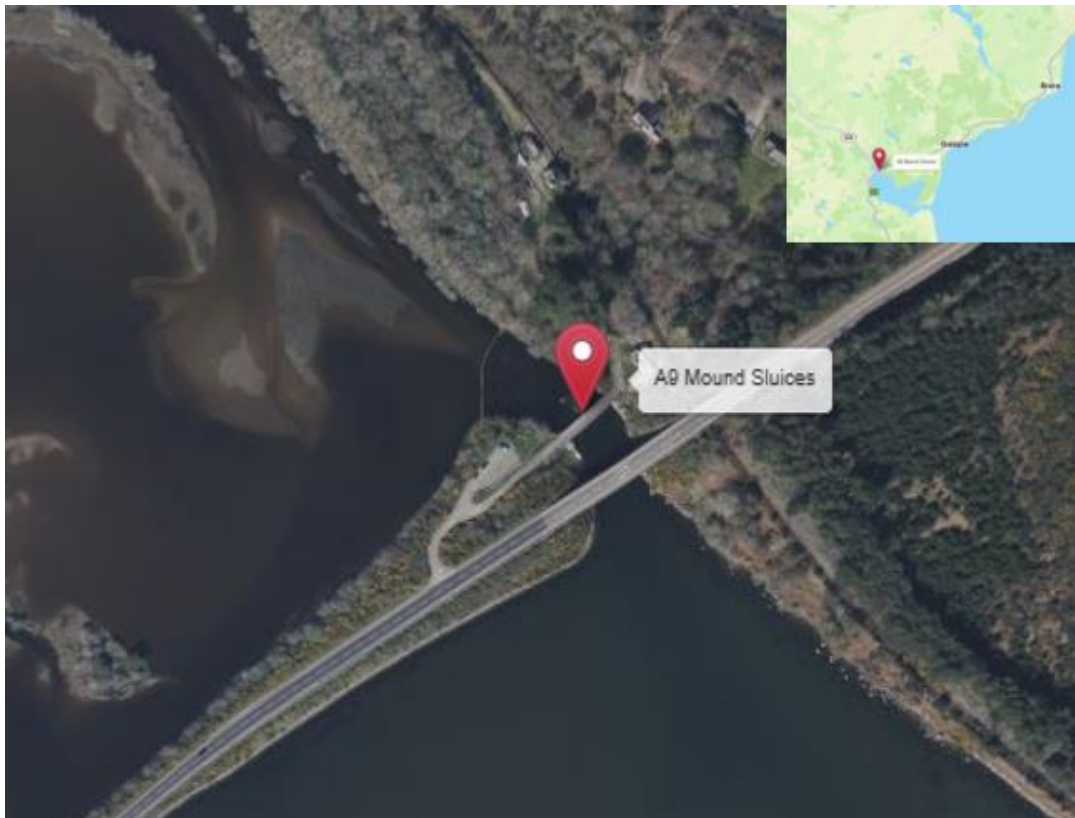


Figure 1: Scheme location (red pin) with inset map indicating the scheme location in the wider geographical area.

# Description of local environment

## Air quality

There are no [Air Quality Management Areas](#) (AQMA), registered sites on the [Scottish Pollutant Release Inventory \(SPRI\)](#), or any Air Quality Monitoring Stations ([AQMS](#)) located within 10km of the scheme.

Due to the rural location of the scheme, baseline air quality is likely to be primarily influenced by traffic along the nearby A9 trunk road and Highland Mainline Railway. Secondary sources are likely derived from land management and coastal activities.

## Cultural heritage

The Mound Sluices bridge is designated under the following cultural heritage classifications ([PastMap](#)):

- Category A Listed Building: 'Mound Bridge and Keeper's Cottage' (LB7022). The Keeper's Cottage lies approximately 20m east of Mound Bridge and, of lesser cultural heritage significance, is also listed as a National Record of the Historic Environment (NRHE).
- NRHE: 'The Mound' (Ref: 14787)
- Historical Environment Record (HER): 'Mound Bridge, Loch Fleet' (Ref: MHG45526)

Of lesser cultural heritage interest, there are 3 other NRHE within 300m of the scheme, the closest of which is The Mound, Station, 120m southeast. There are 7 HERs within 300m of the scheme, the closest of which is The Mound Causeway directly west of the Mound Bridge ([PastMap](#)).

There are no Conservation Areas, Battlefields, World Heritage Sites, Gardens and Designed Landscapes, or Scheduled Monuments within 300m of the scheme extent ([PastMap](#)).

## Landscape and visual effects

The scheme is not located in a National Park, National Scenic Area or any other site designated for its landscape character or quality ([SiteLink](#)).

The scheme is located on the boundary between a 'Coastal Farmland and Woodlands 146' Landscape Character Type (LCT); and a 'Strath-Caithness and Sutherland 142' LCT ([SNH National Landscape Character Assessment](#)).

LCT 'Coastal Farmland and Woodlands- 146' is classified by the following key characteristics:

- Rolling landform to the west within the Dornoch Firth where this landscape tapers and is constrained to the north by a steep-sided densely wooded ridge.
- Gently undulating landform to the east of Skibo and Loch Fleet.
- Flat or gently sloping plain north of Loch Fleet.
- Well-wooded landscape with coniferous forests, often fringed by broadleaf trees, planted on steeper slopes and capping small ridges and knolls on the shores of the Dornoch Firth in the west.
- Policy plantings associated with estates with areas of parkland, tree avenues and ornamental plantings of broadleaves and tall conifers. Plantings of beech common along roadsides on northern lower slopes of Dornoch Firth, with a strong geometric framework of woodlands and mature trees contain large fields in this area.
- Medium to large fields of fertile soils, with a high proportion of arable cropping in some areas.
- Large castles, estate buildings and grand houses on the shores of the Dornoch Firth, as well as the visually prominent and architecturally distinct Dunrobin Castle on the coast north of Golspie, whose turrets and grand tree-lined avenue can be seen from the A9, as well as its lodges, gatehouses and buildings in and around Golspie associated with the Sutherland Estate.
- Dispersed farms throughout the area and occasional clusters of crofts, often on the edge of woodland and associated with smaller pastures on higher slopes at the transition with the Farmed and Forested Slopes with Crofts or close to the coast at Skelbo.
- High visibility from the east coast railway and coastal trunk roads, as well as the network of other roads which cross this area.

LCT 'Strath-Caithness and Sutherland-142' is classified by the following key characteristics:

- Straths range from fairly straight deeply incised troughs to more winding valleys with a number of minor side glens.
- River terraces and hummocky lower side slopes a common feature.
- Water is a key characteristic with straths accommodating a central river meandering across the floodplain, often traced by clumps of birch and alder.
- Lochs in some straths, where a string of small lochs add to the scenic richness of the lower strath.

- Areas of wetland often present on the strath floors.
- Smooth and fairly large pastures the predominant land cover on the floodplains of the straths, commonly enclosed by wire fences.
- Semi-improved pastures, heather and grass moorland and coniferous plantations covering lower side slopes.
- Increasing extent of moorland and woodland generally further up the straths, where the floodplain narrows and settlement is sparser.
- Smaller strip-fields present on often hummocky, lower side slopes and associated with croft houses arranged in linear groups raised on terraces above the floodplain and sometimes backed by woodland.
- Some crofts within the Straths more randomly dispersed or staggered on lower hill slopes.
- Occasional small farms located in the broader and more fertile parts of the straths.
- Settlement generally denser within the lower reaches of many straths, especially at bridging points, on the coast and close to major roads.
- Many areas rich in archaeology with cairns, roundhouses, brochs and old field systems, usually found on side slopes.
- Abandoned crofts, particularly within the upper straths and in narrow side glens.
- Focus on views from roads provided by a number of estate shooting lodges, and clustered, predominantly 19th Century, often estate style buildings.
- Narrow roads, commonly aligned along the edge of the floodplain, from which views are strongly channelled by the side slopes.
- Rounded Hills often forming prominent edges to the straths with shapely well-defined hills, providing a distinctive skyline and scenic backdrop.
- Highly scenic backdrop of mountains often revealed in some of the upper reaches of these straths.

Land use surrounding the scheme extent is classified as reservoir; managed woodland; plantation; and rough grazing ([HLA Map](#)).

The A9 Mound Sluices forms a historical part of A9 causeway over Loch Fleet separating the River Fleet from the sea, south of Golspie. Land surrounding the area is dominated by marine habitats, inland surface waters and a variety of woodland types.

The A9 trunk road bridge lies parallel to the A9 Mound Sluices (25m south-east) and forms a major landscape feature in the area. A9 Mound Sluices forms a structure associated with the A9 infrastructure which is utilised by local residents and tourists however it does not form a part of the A9 carriageway.

## Biodiversity

The A9 Mound Sluices lies within the Dornoch Firth and Loch Fleet Special Protection Area (SPA) (Site ID: [8490](#)).

The Mound Alderwoods Special Area of Conservation (SAC) (Site ID: [8332](#)) lies 55m northwest of the scheme.

The Dornoch Firth and Loch Fleet Ramsar (Site ID: [8420](#)) overlaps the Dornoch Firth and Loch Fleet SPA and Mound Alderwoods SAC.

The Dornoch Firth and Loch Fleet SPA is also overlapped by the Loch Fleet Site of Special Scientific Interest (SSSI) (Site ID: [984](#)).

The Mound Alderwoods SAC is overlapped by the Mound Alderwoods SSSI (Site ID: [1202](#)).

In addition, the A9 Mound Sluices scheme is located within the Loch Fleet National Nature Reserve (NNR) (Site ID: [5073](#)) and is designated for a variety of coastal and forest habitats and associated wildlife. It is also located within the Loch Fleet and Dornoch and Cuthill Sands Nature Conservation Order (NCO) 1995.

The [National Biodiversity Network \(NBN\) Atlas](#) holds multiple records of bird species within 2km of the scheme (the search criteria included only records during the past ten years, and which have open-use attributions (OGL-CC0-CC-BY). Under the Wildlife and Countryside Act 1981 (as amended), all wild birds and their active nests are protected, with certain species receiving additional protections.

The NBN Atlas holds the following records of invasive non-native species (INNS) (as denoted by \*) and native invasive perennials (as listed in the Network Management Contract (NMC)) under the same search criteria:

- Rosebay willowherb (*Chamerion angustifolium*)
- Rhododendron (*Rhododendron ponticum*) \*

A search using Transport Scotland's Asset Management Performance System (AMPS) has highlighted no records of INNS within 300m of the scheme extent.

Habitat in the surrounding area is dominated by marine and coastal habitats, freshwater and mixed woodland. Woodland in proximity to the scheme is a prevalent landscape feature with the majority classified as native woodland ([Native Woodland Survey of Scotland](#)) containing a variety of open ground, native trees and shrubs.

Aquatic habitats in proximity to the scheme are present within Loch Fleet and the River Fleet. Habitats at the scheme extent are characterised by brackish water due to the saline and freshwater mix which creates a unique ecosystem.

There are several areas of ancient woodland as listed on the [Ancient Woodland Inventory \(AWI\)](#) within 300m of the scheme. The closest of these is Wood ID 6612 of long-established (of plantation origin) approximately 60m east of the scheme.

There are no areas of trees covered by a [Tree Preservation Order](#) (TPO) by Highland Council within 300m of the scheme extents.

Various ecological surveys have been conducted for this structure from 2020 to 2026.

## Geology and soils

The scheme does not lie within proximity to a Geological Conservation Review Site (GCRS) or a SSSI designated for geological features ([NatureScot](#)).

Component soils around the scheme extent are described as 'Humus-iron podzols'. The parent material is described as 'drifts derived from Middle Old Red Sandstone Barren Group sandstones and conglomerates' ([Scotland's Soils](#)).

Soils in the area immediately surrounding the scheme extent are Class 0 mineral soils; peatland habitats are not typically found on such soils ([Carbon and Peatland Map 2016](#)).

Bedrock geology within the scheme extent is described as 'Langwell Conglomerate Member'. Superficial deposits immediately surrounding the scheme to the north and east are 'Raised Marine Deposits, Devensian (gravel, sand and silt)'. These sedimentary superficial deposits were formed between 116 and 11.8 thousand years ago during the Quaternary period. Superficial deposits to the south and west of the scheme are 'Marine Beach Deposits (gravel, sand and silt)'. These sedimentary superficial deposits were formed between 2.588 million years ago and the present during the Quaternary period ([British Geological Society](#)).

## Material assets and waste

The A9 Mound Sluices refurbishment works are required following inspections which identified a number of maintenance issues on the bridge, including that several of the sluice gates within the structure were no longer watertight. The timberwork has

reached the end of its working life and needs to be replaced. Materials required for works in 2026 include:

- Timber for sluice gates
- Galvanised steel framing
- Bracketry and fixings
- Rubber seals

Removed, life-expired timber, rubber and corroded steel from the old gates and framework is expected to be generated as waste on site during refurbishment works and will be disposed of appropriately.

A Site Waste Management Plan (SWMP) is required as the scheme value exceeds £350,000.

## Noise and vibration

For residential, community and commercial receptors refer to the 'Population and Human Health' section below.

The works do not fall within a Candidate Noise Management Area (CNMA) as defined by Transport Scotland's Transport Noise Action Plan ([TNAP](#)) 2024 to 2028.

Noise levels at the scheme extent for day, evening and night ( $L_{DEN}$ ) fall around 59dB, with noise levels on the nearby A9 reaching up to 71dB ([SpatialData.gov.scot](#)).

Baseline noise levels are likely to be primarily influenced by traffic travelling along the nearby A9.

## Population and human health

The scheme is located adjacent to the A9 5.3km south of Golspie in a small hamlet containing 3 residential properties, the closest at a distance of 20m north of the scheme with no acoustic or visual screening present. There is one other residential property and 'Beech Tree Lodge B&B' approximately 160m north of the scheme; however, these are screened by woodland.

There is a Highland Council public car park 25m west of the scheme which is a popular spot for visitors, birdwatchers and campers, with several picnic tables surrounding this. It is expected that this car park will be closed for the duration of the works to allow for a site compound, in agreement with the Highland Council. The junction leading onto the A9 lies 100m southwest of the scheme.

The Mound Bridge is a single-track road used by vehicles, non-motorised road users (NMUs) and pedestrians and acts as local access to the 3 residential properties.

The Highland Mainline Railway lies approximately 40m east of the scheme at its closest point.

There are no bus stops or [National Cycle Routes](#) within 300m of the scheme extent.

There are no [Core Paths](#) or walking routes as recorded by [Walk Highlands](#) within 300m of the scheme.

There is no requirement for TM on the main A9 carriageway and local access across A9 Mound Sluices will be maintained.

## Road drainage and the water environment

Loch Fleet is a coastal water body (ID: 200475) in the Scotland river basin district. It is 6.7 square kilometres in area and lies directly south of the Mound Bridge. Loch Fleet has been designated as a heavily modified water body on account of physical alterations that cannot be addressed without a significant impact on an airport or major transport route and protected habitats and species. Loch Fleet at its coastal section is protected with the following designations: Loch Fleet and Dornoch and Cuthill Sands NCO 1995; Dornoch Firth and Loch Fleet Ramsar; Loch Fleet SSSI; and the Dornoch Firth and Loch Fleet SPA. Full details of these designations can be found in the Biodiversity section above. In 2024, Loch Fleet was assigned 'Good Ecological Potential' by the Scottish Environment Protection Agency (SEPA) under the Water Framework Directive 2000/60/EC (WFD) ([SEPA](#)).

Loch Fleet Mainland is a coastal water body (ID: 200331) in the Scotland river basin district. It is 0.1 square kilometres in area and lies directly northwest of the A9 Mound Sluices. Loch Fleet Mainland is protected with the following designations: Dornoch Firth and Loch Fleet Ramsar; Mound Alderwoods SAC; Dornoch Firth and Loch Fleet SPA; and Mound Alderwoods SSSI. Full details of these designations can be found in the Biodiversity section above. In 2024, Loch Fleet Mainland was assigned a classification of 'Good Ecological Potential' by SEPA under the WFD ([SEPA](#)).

River Fleet (Loch Fleet to Rogart section) is a river (ID: 23390), in the River Fleet catchment of the Scotland river basin district. The main stem is approximately 7.7 kilometres in length, and it lies approximately 220m north of the Mound Bridge with hydrological connectivity via the Loch Fleet Mainland waterbody. The river has been designated as a heavily modified water body on account of physical alterations that cannot be addressed without a significant impact on the drainage of agricultural land.

In 2024, it was assigned 'Moderate Ecological Potential' by SEPA under the WFD ([SEPA](#)).

The area surrounding the scheme is covered by the Dornoch (ID: 150544) and Brora (ID: 150703) groundwater bodies, which were both assigned 'Good Ecological Potential' by SEPA under the WFD in 2024 ([SEPA](#)). These groundwaters are also drinking water protected areas ([Scottish Government](#)).

There are several other unclassified water bodies, drains, springs and wetlands within 300m of the scheme.

[SEPA Flood Map](#) has highlighted a high risk of river water flooding around the north of Mound Bridge (i.e. a 10% chance of flooding each year). It has also highlighted a medium to high risk of coastal flooding surrounding the scheme extent (i.e. a 0.5-10% chance of flooding each year).

## Climate

The [Climate Change \(Scotland\) Act 2009](#) ('The Act'), and its subsequent amendment under the [Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#), sets the framework for the Scottish Government to address climate change. The Act has an ambitious target to reach Net Zero greenhouse gas emissions by 2045, with any residual emissions balanced by removing carbon dioxide from the atmosphere. This is five years earlier than the rest of the UK due to the greater potential for carbon sequestration in Scotland.

The Act was amended to replace interim targets with carbon budgets. Carbon budgets are legally binding caps on greenhouse gas emissions in Scotland over five-year periods. In line with the Act, the Climate Change Committee (CCC) published advice on the level of Scotland's four carbon budgets, covering the period 2026 to 2045, recommending what the Scottish Government sets its carbon budgets at for annual average levels of emissions. These recommendations are based on an ambitious but credible route to Net Zero for Scotland by 2045.

Emissions reductions from surface transport are the largest contribution to meeting the first two carbon budgets. The pathway for surface transport emission reduction is primarily driven by the uptake of electric vehicles, in addition to measures to enable a shift from car use to public transport and active travel, which all play a role in reducing emissions from fossil fuel cars. Ensuring efficiency of existing transport infrastructure and improving/providing new active travel facilities is therefore important to support these carbon reduction budgets.

Transport is the largest contributor to harmful climate emissions in Scotland. In response to the climate emergency, Transport Scotland are committed to reducing their emissions by 75% by 2030 and to the above noted legally binding target of net-zero by 2045. Transport Scotland is committed to reducing carbon across Scotland's transport network and this commitment is being enacted through the Mission Zero for Transport ([Mission Zero for transport | Transport Scotland](#)).

## Policies and plans

This Record of Determination has been undertaken in accordance with all relevant regulations, guidance, policies and plans, notably including the Environment and Sustainability Discipline of the Design Manual for Roads and Bridges ([Design Manual for Roads and Bridges \(DMRB\)](#)) and Transport Scotland's Environmental Impact Assessment Guidance ([Guidance - Environmental Impact Assessments for road projects \(transport.gov.scot\)](#)).

# Description of main environmental impacts and proposed mitigation

## Air quality

Construction activities associated with the proposed works have the potential to temporarily cause local air quality impacts. The main sources are likely to be dust generated by the removal and replacement of timber, as well as exhaust emissions from ancillary plant and vehicles. As a result, there is potential for dust, particulate matter, and exhaust emissions to be emitted to the atmosphere. However, taking into account the nature and scale of the works and the following mitigation measures, the risk of significant impacts to air are considered to be low.

- Ancillary plant, vehicles and non-road mobile machinery (NRMM) will have been regularly maintained, paying attention to the integrity of exhaust systems.
- Ancillary plant, vehicles and NRMM will be switched off when stationary to prevent exhaust emissions (e.g., there will be no idling vehicles).
- Cutting, grinding, drilling, coring and sawing equipment (if required) will be fitted or used in conjunction with suitable dust suppression techniques e.g., local exhaust ventilation system that fits directly onto tools.
- Regular monitoring (e.g., by engineer or Clerk of Works) will take place when activities generating air pollution are occurring. In the unlikely event that unacceptable levels of air pollution are emanating from the site, the operation will, where practicable, be modified and re-checked to verify that the corrective action has been effective. Actions to be considered include: (a) minimizing cutting and grinding on-site, (b) reducing the operating hours, (c) changing the method of working, etc.
- All delivery vehicles carrying material with dust potential will be covered when travelling to or leaving site, preventing the spread of dust beyond the work area.
- Material stockpiles will be reduced as far as is reasonably practicable by using a 'just in time' delivery system. All material will also be stored on made ground.
- Any stockpiled material on site will be monitored daily to ensure no risks of dust emissions exists.
- Materials will be removed from site as soon as is practicable.
- Good housekeeping will be employed throughout the work.

With the above mitigation measures in place, it is anticipated that any air quality effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this Record of Determination (RoD).

## Cultural heritage

The works will be confined to The A9 Mound Sluices which is covered by a Category A Listed Building designation.

Listed Building Consent (LBC) for the refurbishment works was obtained from the Highland Council in May 2021 (LBC Reference Number: 21/01187/LBC). Refurbishment works commenced in 2021 and the LBC will remain valid until refurbishment works are completed. A variation to the LBC to include works on the apron at arches 4-6 was obtained in September 2023 (LBC Reference Number: 23/01269/LBC). The apron works were conducted in 2025 and no further works related to this variation are required in 2026.

A minor permanent visual change to the structure will occur following the refurbishment works with the replacement of timberworks on arches 3-6. However, works on the Mound Sluices will be in keeping with the character of the structure. The works will preserve and enhance the character and fabric of the structure by using materials and finishes which match the original and are historically accurate. Additionally, the works will aim to prevent any deterioration to the structure and enhance the structure lifecycle. Therefore, no significant residual visual impacts of the works are predicted. In addition, the following mitigation measures will be implemented throughout the works:

- All conditions of the LBC will be met and detailed in the Site Environmental Management Plan (SEMP).
- All site personnel will be briefed of the importance of cultural heritage value within the area and advised of the conditions of the LBC and any additional conditions implemented by the Planning Authority or Historic Environment Scotland (HES).
- Works will be carried out as detailed in the Design and Heritage Statement produced for the LBC application.
- If there are any unexpected archaeological finds, works will stop temporarily in the vicinity, the area will be cordoned off, and a member of the BEAR Environment team will be contacted for advice. Historic Environment Scotland will be contacted as required.
- Laydown areas will be sensitively located (e.g., on areas of made ground) to avoid areas of cultural heritage interest where possible.
- There will be no storage of plant, materials or equipment against buildings, bridges, walls or fences.

With the above mitigation measures in place, in addition to the LBC already in situ, it is anticipated that any cultural heritage effects associated with the proposed scheme are unlikely to be significant. This receptor is not considered further in this RoD.

## Landscape and visual effects

The works are not located in a National Park, National Scenic Area or any other site designated for landscape character and visual effects features.

There will be a short-term impact on the landscape character and visual amenity of the site as a result of the presence of construction plant, vehicles and the site compound located in the Highland Council car park. People, ancillary plant, vehicles and materials will be restricted to areas of made/engineered ground off the network access route at the A9 Mound Sluices car park.

As noted above, a minor permanent change will occur following the refurbishment works; however, these will be in keeping with the character of the structure and will not result in a significant visual impact to the surrounding landscape. Similarly, the works will also ensure appropriate measures are taken to ensure the lifecycle of the structure is enhanced.

In addition, the following mitigation measures will be put in place during works:

- Works will be carried out as detailed in the Design and Heritage Statement produced for the LBC application.
- Throughout all stages of the works, the site will be kept clean and tidy, with materials, equipment, plant and wastes appropriately stored, reducing the landscape and visual effects as much as possible.
- Works will avoid encroaching on land and areas where work is not required or not permitted. This includes general works, storage of equipment/containers and parking.
- The working area and site compound location will be appropriately reinstated following works.
- The site will be left clean and tidy following construction

With the above mitigation measures in place, it is anticipated that any landscape and visual effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

## Biodiversity

Due to the scheme's connectivity to numerous European sites, extensive consultation has been carried out with NatureScot over the past several years. Prior to works commencing in 2021, a Statement to Inform Appropriate Assessment (SIAA) was produced and approved by NatureScot which covered the full refurbishment works, including works programmed for 2026. Updates to the proposed works, including the apron works in 2025, and additional consultation with NatureScot were reflected in the updated version of the SIAA in 2022, which concluded that the works were directly connected to the site management of Mound Alderwoods SAC as the restoration of the function of the sluice gates aids in the management of the hydrological regime within this designated site. No Likely Significant Effects (LSE) as a result of the works on the Dornoch Firth and Loch Fleet SPA and Ramsar were identified for the following reasons:

- Best practice methods will be used throughout works to prevent pollution and to reduce the impact of noise and lighting (if required) during works.
- The works are localised to the Mound Sluices structure and immediate surrounding habitat; therefore, there will be no loss of qualifying habitats or impacts on associated invertebrate and plant species within the sites.
- Qualifying bird species in the vicinity of works are likely habituated to existing noise and activity related to recreational activities which take place from the car park and the proposed works are not expected to significantly increase baseline noise levels. Additionally, qualifying bird species will have ample alternative foraging habitat available in the remainder of the SPA/Ramsar site.
- There will be no 24-hour working, allowing quiet periods each day for birds to forage undisturbed near to the sluices.

A review of the SIAA carried out in 2026 did not identify any changes to the conclusions of the assessment, as the program of works has not changed from the original works scope (i.e. the full refurbishment of all 12 arches). NatureScot has been consulted regarding works in 2026 and have approved the proposal to condense the refurbishment works due to the poor condition of the arches and concerns that the gates could fail leading to the potential for significant flooding issues upstream.

NatureScot has advised that SSSI consent is not required for the works within Loch Fleet SSSI, as the proposed works are covered by the existing Marine Licence.

There is no requirement for abstraction or discharge into the water environment. As such, there will be no adverse impacts on the Loch Fleet and Dornoch and Cuthill Sands NCO 1995.

There will be no adverse impacts on the Loch Fleet National Nature Reserve as works are restricted to the A9 Mound Sluices bridge and immediate surrounding habitat.

Previous site visits did not identify any INNS, invasive native perennials or injurious weeds within the scheme extent. There is no requirement to import topsoil, and as such, there is limited potential to spread or introduce INNS, invasive native perennials, or injurious flowering plant species.

Pollution controls and good practice measures to reduce impacts of works on the local environment will be detailed in the SEMP and adhered to on site. Any protected species in the area are likely to be accustomed to road noise on the A9, and recreational activities associated with the Highland Council car park and local area. Works are restricted to daytime hours negating requirement for artificial lighting. The following mitigation measures, in addition to any further advised by NatureScot, will be put in place to minimise impacts on biodiversity features in the area:

- An Ecological Clerk of Works (ECoW) will monitor and oversee the works on site.
- All conditions of the SSSI consent will be adhered to on site.
- Pre-construction checks will be conducted in advance of the works.
- The main works will be undertaken between June and September inclusive (low flow periods), with the potential for some pre-works/site set-up ahead of this period to facilitate quick start-up of the main in-water works in June.
- There will be no working in the water in the months of April-May (inclusive).
- The works will avoid wintering bird season (October – March inclusive) as much as possible, with some flexibility for works to run into October if required to complete works as planned (as agreed with NatureScot)
- 24-hour working will be avoided, leaving a period of 'quiet time' each day.
- Works will be strictly limited to areas required for access and to carry out the works. Unnecessary encroachment onto terrestrial or aquatic areas out with those previously agreed upon will not be tolerated.
- All construction operatives will be briefed through toolbox talks prior to works commencing, which will be included in the SEMP. The toolbox talks will provide information on the legislation, general ecology, and best practice measures for relevant protected species.
- Site personnel will remain vigilant for the presence of any protected species throughout the works period. Should a protected species be noted during construction, works will temporarily halt until the species has sufficiently moved on. Any sightings of protected species will be reported to the BEAR Scotland Environmental Team. If required, NatureScot will be contacted for advice.

- A 'soft start' will be implemented on site each day. This will involve switching on vehicles and checking under/around vehicles and the immediate work area for mammals prior to works commencing to ensure none are present and that there is a gradual increase in noise.
- Any excavations, exposed pipes/drains, or areas where an animal could become trapped (e.g. storage containers) will be covered over when not in use, at the end of each shift, and following completion of the works to avoid animals falling in and becoming trapped.
- If fencing is utilised at any point during the works, a gap of 200mm from ground level will be provided, allowing free passage for mammals and preventing entrapment.
- If an active bird nest is found in vicinity of the works, all works within 30m of the nest will stop until the BEAR Scotland Environment Team can provide advice.
- If nesting birds are found during the pre-works check or during works, consultation with NatureScot will be carried out and a licence will be sought if advised by NatureScot. If required, all conditions of any licences will be adhered to.
- If required, artificial lighting required for work during low light levels will be directed away from Loch Fleet, road verges, trees, or other suitable habitat as much as is safe and reasonably practicable.

With the above mitigation measures in place, it is anticipated that any biodiversity effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

## Geology and soils

The works are not located within a GCRS or geological SSSI and no excavation is required as part of the proposed works. All works are restricted to the A9 Mound Sluices structure and the area immediately surrounding it. However, the following measures will be in place to mitigate any potential adverse impacts on geology and soils:

- The parking of machinery/vehicles and storage of equipment on grass will be minimised as far as is reasonably practicable.
- Upon completion of the works, any damage to the local landscape will be reinstated as much as is practicable.
- Mitigation measures to prevent contamination of soils through loss of containment will be strictly adhered to.
- Additional pollution prevention measures as outlined in the 'Road drainage and the water environment' section will be adhered to on site.

With the above mitigation measures in place, it is anticipated that any geology and soil effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

## Material assets and waste

There is potential for impacts during works as a result of resource depletion through use and transportation of new materials. However, materials will be sourced locally where possible and the following mitigation measures will be put in place:

- Materials will be sourced from recycled origins as far as reasonably practicable within design specifications.
- Care will be taken to order the correct quantity of required materials to prevent disposal of unused materials.
- Where possible, minimal packaging will be requested on required deliveries to reduce unnecessary waste and production of packaging materials.

There is potential for impacts during works as a result of the improper storage or disposal of waste. The following mitigation measures will be put in place:

- A Site Waste Management Plan will be completed in line with BEAR procedures.
- Any trade effluents will be contained for removal from the site to a licenced waste facility.
- The waste hierarchy (Reduce, Reuse, Recycle and Dispose) will be employed throughout the construction works.
- All waste stored on site will be adequately protected against the elements.
- The subcontractor will adhere to waste management legislation and ensure they comply with their Duty of Care.
- Containment measures will be in place to prevent debris or pollutants from entering the surrounding environment.
- All wastes and unused materials will be removed from site in a safe and legal manner by a licensed waste carrier upon completion of the works. The appointed waste carrier will have a valid SEPA waste carrier registration, a copy of which will be provided to and retained by BEAR Scotland as early as possible.
- All appropriate waste documentation will be present on site and be available for inspection. A copy of the Duty of Care paperwork will be provided and filed appropriately in accordance with the Code of Practice (as made under Section 34 of Environmental Protection Act 1990 as amended).
- Re-use and recycling of waste will be encouraged, and the subcontractor will be required to fully outline their plans and provide documentary evidence for

waste arising from the works (e.g., waste carrier's licence, transfer notes, and waste exemption certificates).

- Staff will be informed that littering will not be tolerated. Staff will be encouraged to collect any litter seen on site.
- Where applicable, all temporary signage will be removed from site on completion of the works.

With the above mitigation measures in place, it is anticipated that any material assets and waste effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

## Noise and vibration

Construction activities associated with the proposed scheme have the potential to cause noise and vibration impacts through the use of equipment and construction vehicles for the proposed activities. However, the works are not located within a CNMA or CQA and works will also be conducted utilising a daytime working pattern.

Noise is not likely to be a defining feature of the works based on the proposed working activities and potential to induce worst-case scenario noise and vibration will also be intermittent, temporary and short-lived. The following mitigation measures will be put in place:

- The Best Practicable Means, as defined in Section 72 of the Control of Pollution Act 1974, will be employed at all times to reduce noise to a minimum. On-site construction tasks will be programmed to be as efficient as possible, with a view to limiting noise disruption to local sensitive receptors.
- Where possible, inherently quiet plant will be selected for construction works.
- All site personnel will be fully briefed in advance of works regarding the need to minimise noise during works and of the site-specific sensitivities.
- Drop heights from vehicles and NRMM will be kept to a minimum to minimise noise when unloading.
- All plant, machinery and vehicles will be switched off when not in use.
- All plant will be operated in such a way that minimises noise emissions and will have been maintained regularly to the appropriate standards.
- Where fitted, and where permitted under Health and Safety requirements, white noise reversing alarms will be utilised during construction.
- Where ancillary plant such as generators are required, they will be positioned so as to cause minimum noise disturbance. Where deemed necessary, acoustic screens will be utilised.

With the above mitigation measures in place, it is anticipated that any noise and vibration effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

## Population and human health

During construction, activities undertaken on site have the potential to have temporary adverse impacts on local residents, vehicle travellers and NMUs. TM on the A9 carriageway is not required and local access and NMU/pedestrian movements on the A9 Mound Sluices will be maintained. The Highland Council car park will be used as a site compound which may cause some temporary adverse impacts to visitors of the car park and vehicle travellers who may use it as a rest stop from the A9. It is anticipated that the car park will be closed for the duration of the works following consultation with Highland Council.

There are 3 residential properties in proximity to the scheme, the closest of which (Keeper's Cottage) is located 20m northeast of the scheme with no visual or acoustic screening present. Therefore, there is potential for disturbance from noise and vibration, however, works will be conducted during daytime hours, and the majority of the works will utilise hand tools only, with no requirement for heavy plant or machinery.

With the following mitigation measures in place, the risk of significant impacts on population and human health is considered to be low:

- Works are currently programmed for daytime hours. The works schedule and any changes to this will be communicated to local residents prior to and throughout the programme.
- Given the proximity of residential and commercial dwellings to the scheme extent, the Toolbox Talk TTN-042 Being a Good Neighbour will be briefed prior to works commencing.
- Appropriate provisions / measures will be implemented within the works area to allow the safe passage of NMUs of all abilities through the site (if required).
- Local residents will be notified in advance of the works and in advance of car park restrictions.
- Closure of the Highland Council car park will be appropriately signed as required and advance notice of the closure will be provided.

Taking into account the nature and scale of the works and the good site practice measures to be adopted during the works (outlined in the SEMP), it is anticipated that any population and human health effects associated with the works are unlikely to be significant. This receptor is not considered further in this RoD.

## Road drainage and the water environment

During the works, there is potential for temporary impacts on the water environment. Potential changes in water quality from pollution events (either by accidental sediments, particulate matter, chemicals, fuels or by mobilisation of these in surface water caused by rain/flooding) during works have the potential to have a direct or indirect effect on the surrounding water bodies.

Due to the works on the coastal section of Loch Fleet (below MHWS) a Marine Licence to permit refurbishment works was obtained from Marine Directorate in 2021 (Licence Number: MS-00009126) and expired in 2025. However, a variation to the marine licence to permit the additional apron works for 2025 was obtained in 2023 (Licence Number: MS-00010220) and is valid until the 31st October 2028, superseding the original licence. The variation permits the planned refurbishment works for 2026. All conditions of the licence and variation will be adhered to on site.

The works will entail in water works on both upstream and downstream sides of the sluices and, as such, will adhere to relevant EASR General Binding Rules (GBRs) for working in or near water, which will be detailed in the SEMP.

The following mitigation measures will be put in place to reduce the risk of pollution incidents as a result of the works:

- All conditions of the marine licence and variation will be complied with. A copy of the licence and variation will be present and kept on site for inspection.
- Standard working practices to comply with EASR for works in or near water will be detailed in the SEMP and adhered to on site.
- No discharges into any watercourses or drainage systems will be permitted.
- Appropriate containment measures will be in place to prevent any loss of construction materials into the water environment.
- Pollution prevention measures will be checked daily and more regularly during periods of heavy rainfall to ensure they remain effective.
- A toolbox talk on silt and sediment containment will be delivered to all site staff as part of the site induction.
- An incident response (contingency) plan will be put in place to reduce the risk from pollution incidents or accidental spillages. All necessary containment equipment, including suitable spill kits (for oil and chemicals) will be available on site, quickly accessible if needed, and staff trained in their use.
- All spills will be logged and reported. In the event of any spills into the water environment, all works will stop and the incident will be reported to the project manager and the BEAR Scotland Environmental Team. SEPA will be

informed of any such incident as soon as possible using the SEPA Pollution Hotline.

- All plant and equipment will be regularly inspected for any signs of damage and leaks. A checklist will be present to make sure that the checks have been carried out.
- Storage of hazardous material, oil and fuel containers will be distanced more than 10m away from any watercourses.
- If required, a designated refuelling area will be identified. Fuel bowsers will be stored on an impermeable area and be fully bunded. This will be distanced more than 10m from any watercourses.
- During refuelling of smaller mobile plant, a funnel will be used, and drip trays will be in place. Care will be taken to reduce the chance of spillages. Spill kits will be quickly accessible to capture any spills should they occur. The ground / stone around the site of a spill will be removed, double bagged and taken off site as special waste.
- Generators and static plant may have the potential to leak fuel and / or other hydrocarbons and will have bunding with a capacity of 110%. If these are not bunded then drip trays will also be supplied beneath the equipment with a capacity of 110%.
- All storage of hazardous materials utilised on site is required to undergo assessment under the Control of Substances Hazardous to Health (COSHH) Regulations 2002. These assessment(s) will contain a section on environment which highlights any precautions and mitigation requirements.

With the above mitigation measures in place, it is anticipated that any road drainage and the water environment effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

## Climate

Construction activities associated with the proposed scheme works have the potential to cause local air quality impacts as a result of the emission of greenhouse gases through the use of vehicles and machinery, material use and production, and transportation of materials to and from site. The following mitigation measures will be put in place:

- BEAR Scotland will adhere to its Carbon Management Policy.
- Local contractors and suppliers will be used as far as practicable to reduce fuel use and greenhouse gas emitted as part of the works.
- Where possible, materials will be sourced locally to reduce greenhouse gas emissions associated with materials movement, and waste will be removed to local waste management facilities.

With the above mitigation measures in place, it is anticipated that any climate effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

## Vulnerability of the project to risks

The works will be undertaken between June and September inclusive to utilise the dry season and reduce the risk of working during high-water or flood events, which are more likely to occur in winter. The sluice gates will remain functional throughout works. Following the completion of the works, the risk of water seepage will be reduced.

Appropriate personal protective equipment (PPE) and safety measures will be in place for works in or near water and in-water works will be conducted during periods of low tide.

No TM is required on the A9 carriageway and access across the A9 Mound Sluices will be maintained. It is anticipated that the Highland Council car park will be closed to allow for material storage and welfare compound, following authorisation from Highland Council.

A SEMP will be put in place which will set out a framework to reduce adverse impacts from construction activities on sensitive environmental receptors. The SEMP will set out the commitments and constraints and will identify the procedures and measures that will be used to manage and control these aspects. The contractors will be required to comply with all conditions of the SEMP, as well as the conditions of all licences/consents.

These measures, along with mitigation measures and standard working practices, will be detailed in the SEMP and adhered to on site. The vulnerability of the project to risks of major accidents and disasters is considered to be low.

## Assessment of cumulative effects

Woodland associated with Mound Alderwoods SAC is dependent on the water management provided by the A9 Mound Sluices and the works are essential to ensure existence of the SAC, which has been acknowledged by NatureScot at the initial stages of the project.

A search of the [Highland Council Planning Portal](#) identified no approved planning applications within 300m of the scheme within the last six months.

Although the works do not require TM on the live carriageway lines, a search of the Scottish Roads Works Commissioner website ([Map Search](#)) has identified that there are no roadworks planned for the same period as the proposed works and no cumulative effects are anticipated with any other developments in the vicinity.

BEAR Scotland programme all of their proposed works in line with appropriate guidance and contractual requirements. All schemes are programmed to take into account existing and future planned works, with a view of limiting any cumulative effects relating to TM. As a result of this exercise, where a potential for cumulative impacts is identified, BEAR will reprogramme schemes to avoid / limit any cumulative effects or will utilise existing TM to complete multiple schemes at once. This approach allows BEAR Scotland to effectively manage the potential cumulative effects as a result of TM, resulting in minimal disruption to users of the Scottish trunk road network.

Overall, it is unlikely that the proposed works will have significant cumulative effects with any other future works in the area.

## Assessments of the environmental effects

As detailed in the Description of Main Environmental Impacts and Proposed Mitigation section within this Record of Determination, there are no significant effects anticipated on any environmental receptors as a result of the proposed works.

A Statement of Appropriate Assessment has been conducted due to the scheme's location within the Dornoch and Loch Fleet SPA and Ramsar site and connectivity to the Mound Alderwoods SAC. The assessment concluded that the works were directly connected to the management of the Mound Alderwoods SAC and that the works would not result in LSE on the Dornoch and Loch Fleet SPA and Ramsar site. Loch Fleet SSSI and Mound Alderwoods SSSI were included as part of the assessment.

Consultation with NatureScot was conducted in March 2026 and approved the refurbishment of the remaining four arches (3-6) during works in 2026, as long as two remain functional at all times throughout works. NatureScot also authorised some flexibility with the in-water working time restraints, and works may be extended into the first part of October; however, only if required to facilitate the completion of the works. In-water works should be completed by the end of September as much as possible.

A Marine Licence and Listed Building Consent are in place for refurbishment works and remain valid. SSSI consent will be sought from NatureScot prior to the commencement of works, for works within Loch Fleet SSSI.

## Statement of case in support of a Determination that a statutory EIA is not required

This is a relevant project in terms of section 55A(16) of the Roads (Scotland) Act 1984 as it is a project for the improvement of a road and the completed works (together with any area occupied by apparatus, equipment, machinery, materials, plant, spoil heaps, or other such facilities or stores required during the period of construction) are situated in whole within the Dornoch Firth and Loch Fleet SPA, Loch Fleet SSSI and Loch Fleet and Dornoch and Cuthill Sands NCO 1995, which are sensitive areas within the meaning of regulation 2(1) of the Environmental Impact Assessment (Scotland) Regulations 1999.

The project has been subject to screening using the Annex III criteria to determine whether a formal Environmental Impact Assessment is required under the Roads (Scotland) Act 1984 (as amended by The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017). Screening using Annex III criteria, reference to consultations undertaken and review of available information has not identified the need for a statutory EIA.

The project will not have significant effects on the environment by virtue of factors such as:

Characteristics of the scheme:

- Works are localised to the A9 Mound Sluices, associated outbuildings and immediate surrounding habitat only.
- Construction activities are restricted to an area of 0.1ha along the 42m bridge, plus the site compound in the adjacent car park.
- The works will be undertaken during the daytime working hours between June and September inclusive, when water flows are low.
- The design of the scheme is in line within the character of the Listed Building which has also been authorised by the Local Authority.
- The risk of major accidents or disasters is considered to be low.

- Any potential impacts of the works are expected to be temporary, nonsignificant, and limited to the construction phase.
- Residual impacts are considered to be beneficial to the environment by maintaining the function of the Mound Sluices gates.
- Measures will be in place to ensure appropriate removal and disposal of waste.

Location of the scheme:

- The A9 Mound Sluices is a category A Listed Building. LBC for the works has been obtained from the Highland Council, and all conditions will be adhered to.
- The scheme lies within the marine area below MHWS. A Marine Licence and variation have been issued to permit works, and all conditions of these licences will be adhered to.
- The scheme lies within/shares connectivity with the Dornoch Firth and Loch Fleet SPA/Ramsar and Mound Alderwoods SAC including associated SSSIs. The SIAA produced previously and agreed by NatureScot concluded that works were essential for the site management of the Mound Alderwoods SAC and would not result in LSE on the qualifying features of the other nearby European Sites.
- The works will not result in any impacts on the Loch Fleet and Dornoch and Cuthill Sands NCO 1995.
- Works are restricted to the A9 Mound Sluices and associated outbuildings. The site compound will be located on made ground at the nearby Highland Council car park.
- The works will not restrict access to nearby residential properties.

Characteristics of potential impacts of the scheme:

- All relevant licences and consents required will be in place prior to works and all conditions of these licences/consents will be adhered to during works.
- Measures will be in place to ensure appropriate removal and disposal of waste.
- Residual visual impacts will be localised to the refurbishment of arches 3-6 which will be in keeping with the character of the structure.
- The SEMP will include plans to address environmental incidents.
- Mitigation measures detailed above and in the SEMP will be put in place with the objective to prevent and, if required, subsequently control any potential impacts on sensitive receptors.

- In the event that INNS are found on site, measures to prevent potential INNS spread will be implemented.
- Updated ecological surveys will be undertaken prior to the commencement of works and additional mitigation measures will be included in the SEMP if required.
- An ECoW will be present on site to ensure compliance with the SEMP and all licences.
- No in-combination effects have been identified.

## References of supporting documentation

BEAR Scotland (2021) A9 Mound Sluices: Statement to Inform Appropriate Assessment

## Annex A

“sensitive area” means any of the following:

- land notified under sections 3(1) or 5(1) (sites of special scientific interest) of the Nature Conservation (Scotland) Act 2004
  - land in respect of which an order has been made under section 23 (nature conservation orders) of the Nature Conservation (Scotland) Act 2004
  - a European site within the meaning of regulation 10 of the Conservation (Natural Habitats, &c.) Regulations 1994
  - a property appearing in the World Heritage List kept under article 11(2) of the 1972 UNESCO Convention for the Protection of the World Cultural and Natural Heritage
  - a scheduled monument within the meaning of the Ancient Monuments and Archaeological Areas Act 1979
  - a National Scenic Area as designated by a direction made by the Scottish Ministers under section 263A of the Town and Country Planning (Scotland) Act 1997
  - an area designated as a National Park by a designation order made by the Scottish Ministers under section 6(1) of the National Parks (Scotland) Act 2000.
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