Biodiversity Duty Summary Report (Scotland)

EDF Energy, December 2023

EDF Energy Ltd. *Registered in England and Wales. Registered No. 2366852. Registered office: 90 Whitfield Street, London W1T 4EZ*

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1. Introduction

About the company

Overview

EDF is one of the UK's largest energy companies, supplying more than 3.7 million residential and business customers, and Britain's biggest generator of zero carbon electricity. As a wholly owned subsidiary of the EDF Energy Group, their UK nuclear fleet has generated enough zero-carbon electricity (over 2000TWh) to power every home in the UK for 18 years[1]. EDF also maintain, through joint venture with EDF Renewables, an operational portfolio of 36 wind farms, including two offshore wind farms, and are in the process of building their first c50 MW solar projects.

EDF understands that their operations have the potential to impact both positively and negatively on biodiversity. As such they have taken steps to minimise negative impacts resulting from their operations, whilst also seeking to maximise positive action and outcomes for biodiversity.

EDF is organised into business units and joint ventures. This document has been prepared for EDF Nuclear Operations as this part of the business holds a licence under the Electricity Act (1989).

Statutory Duties in Scotland

In Scotland, the Nature Conservation (Scotland) Act 2004 placed a duty on all public bodies to further the conservation of biodiversity while carrying out their responsibilities. The Act also placed a requirement for public bodies to further the conservation and enhancement of Sites of Special Scientific Interest (SSSIs).

Section 2A of the 2004 Act (as amended by the Wildlife and Natural Environment (Scotland) Act 2011), requires a public body to prepare and publish a biodiversity report within three years of the Act coming into force and every three years thereafter. Section 58 of the Act defines public bodies as:

- "public body or office-holder" includes a statutory undertaker and any person exercising functions of a public nature, but does not include any court or any tribunal or body exercising the judicial power of the State".

The Act defines a statutory undertaker and includes "a holder of a licence under section 6(1) of the Electricity Act 1989 (c. 29)," (s.58(1))".

EDF Nuclear Operations submitted its' first Biodiversity Report for their landholding in 2014[2]. Since this time it has produced reports in 2017[3] and 2020[4] to comply with the Act. Legislation is summarised in **Appendix A**.

2. Mainstreaming Biodiversity at EDF

EDF is committed through its core company ambitions and environmental policies to assessing the impacts of its operations on biodiversity and implementing opportunities for ecological enhancement throughout its business units. The main documents through which EDF communicates its commitments to biodiversity are set out below.

[1] https://www.edfenergy.com/energy
[2] EDF Energy (2014). *Biodiversity Duty Reporting (Scotland).*
[3] EDF Energy (2017). *Biodiversity Duty Reporting (Scotland).*
[4] EDF Energy (2020). *Biodiversity Duty Reporting (Scotland).*

Helping Britain Achieve Net Zero (HBANZ)

EDF made a commitment in 2020 to help the UK achieve Net Zero emissions by 2050. This is enshrined in EDF culture through its company ambition to 'Help Britain Achieve Net Zero' (HBANZ)'. This means more than just reducing net carbon emissions to zero, it also includes minimising the company's overall environmental impact and enhancing biodiversity as biodiversity loss poses material risks for the business and its wider supply chain.

Through this strategy the company aims to deliver both low-carbon and affordable energy for the UK through investment in nuclear, renewables, storage, low-carbon hydrogen, and low-carbon customer solutions such as heat pumps, energy efficiency and electric transport, all of which support customers in reducing their carbon footprint and therefore help the UK achieve Net Zero.

EDF are committed to driving progress in-line with the goal of the Paris Agreement to hold the global average temperature increase to well below 2°C above pre-industrial levels, and the UK Government's Net Zero and Energy Security Strategies.

EDF Environment Policy

EDF's Environment Policy sets out how the company minimise the environmental impact of its operations to ensure a cleaner, healthier and more resilient environment to not only benefits society but the economy as well. Through this policy, the company seeks to reduce carbon emissions, waste, water use and negative impacts that their operations and procedures could have on biodiversity, whilst complying with all relevant environmental legislations, permits and other requirements.

The implementation of this policy sets out a framework for the setting of environmental objectives through management systems and line management within all of the company's business units. All of EDF's many employees and contractors are expected to commit to these environmental objectives and targets and to work in a manner that helps EDF meet these and fulfil their company purpose of HBANZ.

EDF Biodiversity Standard

The primary document that integrates biodiversity into all company activities and sets out its key commitments and responsibilities to protect flora and fauna is the Biodiversity Standard (EDFE-STD-ENV 02, November 2022). EDF recognises that conserving biodiversity is a crucial part of achieving their company ambition HBANZ. They are committed to taking steps to ensuring a continued positive approach to biodiversity across all of its operations and through its entire value chain. This approach accords with both the UK Government aim to become Nature Positive by 2030 and also EDF Group's commitments for positive action for biodiversity.

The Biodiversity Standard was first produced in 2015. It detailed the commitments and actions that EDF, as a responsible company, would take to protect and enhance biodiversity during its operations. The current Standard builds on these actions, revising commitments to align with the current company ambition (HBANZ), EDF Group targets and wider engagement with the global crisis of biodiversity loss. It will guide EDF towards environmentally and ethically responsible business decisions, which are also economically sound and sustainable.

The Biodiversity Standard acknowledges that operating practices and procedures have the potential to impact positively and negatively on biodiversity. Biodiversity is key to ensuring a stable business environment. Therefore, the Standard seeks to build on the Company's existing approach of protecting and enhancing biodiversity, ensuring any negative impacts resulting from their operations are minimised, whilst also maximising positive action and outcomes

for biodiversity. Relevant company procedures and policies, including the EDF (UK) Environment Policy[5], will support this.

To facilitate a positive approach to biodiversity, EDF's biodiversity framework is founded on the principles of collaboration and transparency and outlines the actions the company will implement around four key strategic goals. These key strategic goals are:

- *Achieve a positive outcome for biodiversity for all developments.*
- *Ensure that we deliver positive outcomes for biodiversity on all land that we have direct management responsibility for.*
- *Embed a sustainable approach to biodiversity across our supply chain.*
- *Employees, Community and Stakeholder engagement.*

EDF Nuclear Operations Environment Policy

The EDF Nuclear Operations Environment Policy provides an overview of the governance and oversight of environmental performance in EDF Nuclear Operations and its commitment to EDF's Environment Policy and company ambition HBANZ.

EDF Nuclear Operation Biodiversity Action Plan

The third revision of the EDF Nuclear Operations Biodiversity Action Plan (BAP) was prepared in 2021. The purpose of the BAP is to set out EDF Nuclear Operations' commitment to maintaining and ensuring a positive outcome for biodiversity; in the main through the implementation of appropriate land management operations and actions. The BAP identifies the key biodiversity receptors present within the Nuclear Operations landholding and details objectives and targets to ensure the maintenance and/or enhancement of these, with the aim of contributing to the wider living landscape and promoting a positive outcome for biodiversity. It also details how progress towards achieving the objectives will be monitored using Key Performance Indicators (KPIs). This progress will continue to be reported to partners and stakeholders through quarterly land management meetings, the annual land management report for each site and various internal and external communications throughout the period. It is intended to review, and update as necessary, the BAP every five years (next revision due 2026).

Six high level biodiversity indicators have been developed to provide an estate-wide assessment of the overall success of EDF Nuclear Operations' biodiversity contribution at a company level. These are based on the achievement of site specific KPIs (see Section 3- Action for details) as well as achieving more 'global' targets (see Section 6 – The Wider EDF Estate).

- *Nuclear Operations will seek, wherever feasible, to conserve and enhance biodiversity at each of its principal sites, primarily through its approach to land management but also through its business operations and the development of new assets.*

- *Nuclear Operations will seek to maintain and where appropriate develop further partnerships with selected stakeholders for the delivery of ecological improvement schemes on its land or in the vicinity of its main operational sites.*

- *Nuclear Operations aims to increase the awareness of both its employees and local communities of biodiversity issues and the opportunities for its enhancement through education, participation and partnership.*

[5] EDF UK Policy, Environment Policy, Version 8.0 June 2022

- *Biodiversity gain will be delivered through the implementation of the Site Action Plans.*
- *Nuclear Operations will maintain a comprehensive ecological survey programme to facilitate the regular updating of the base data for each of its sites.*
- *Nuclear Operations will report to partners and stakeholders on our biodiversity performance.*

A site-specific action plan for each of the company's seven main estates, based on the identification of Key Biodiversity Receptors associated with each site, and upon which management and monitoring can be focused, has then been agreed and are detailed in the individual Integrated Land Management Plans (ILMPs) for each site. Further details are given below under Section 3 - Action.

Biodiversity Benchmark

The Biodiversity Benchmark for a Living Landscape scheme has been developed, and is run, by The Wildlife Trusts. It is a nationally recognised *"standard for assessing and certifying an organisation's systems for achieving continual biodiversity protection and enhancement on its landholdings and their implementation"*. Achievement of the Benchmark demonstrates an organisation's commitment to biodiversity and responsible land management. Each accredited site contributes to the creation of a 'living landscape' by restoring, recreating and reconnecting wildlife-rich sites and habitats to enhance the permeability of the landscape to wildlife. This in turn supports delivery of the national government biodiversity strategy outcomes. In October 2023[6], a total of 52 sites in the UK, covering an area of over 8,500ha and managed by 12 organisations, were accredited.

EDF Nuclear Operations first achieved the Biodiversity Benchmark in 2009 at the Sizewell estate, followed by Hartlepool in 2010, and Dungeness B in 2013. The first revision of the EDF Nuclear Operations BAP identified an objective to achieve the Benchmark for all of the seven main Estates by 2015. This has was achieved one year early in 2014 with both of the Scottish sites, Hunterston B and Torness, achieving accreditation. The Long Pits at Dungeness also achieved the Benchmark in 2018.

A rolling programme of site audits is undertaken to ensure continued compliance with the requirements of the Benchmark. Currently, six out of EDF's seven main Estates are accredited, with the Sizewell Estate managed in line with the principles of the Biodiversity Benchmark but unaccredited.

Hunterston B and Torness (the Scottish sites) were last inspected in 2022 and retained their accreditations. The assessor made many positive observations. For example:

"The organisation's biodiversity management system appears to be operating effectively to ensure biodiversity protection and enhancement."

"Both sites appear to be well managed and the organisation should be commended for their positive actions to include biodiversity enhancements such as grass verge enhancement, bird crop seeding, hedge planting and woodland management."

[6] https://www.wildlifetrusts.org/partnerships/working-businesses/biodiversity-benchmark

3. Action

2020 was a year like no other, with the world suddenly and significantly affected by the Covid 19 pandemic. Although much was achieved to promote a positive outcome for biodiversity during this time, the Covid pandemic posed a major constraint to activities through 2020 and 2021 with all but essential works permitted at times. Nonetheless, works did continue and positive outcomes were accomplished.

The EDF Nuclear Operations Estate

EDF Nuclear Operations operates eight nuclear power stations at seven locations around the UK (their seven main 'Estates'). The two Scottish sites are Hunterston B in North Ayrshire and Torness in East Lothian. All of the power station sites comprise both operational stations and associated facilities, as well as land not currently in operational use.

In all locations, designated sites of international and national biodiversity importance overlap or occur in close proximity and the land not currently in operational use supports a wide variety of interesting habitat types and legally protected and notable species. Maintaining the biodiversity of this requires continued active but tailored and specific management. The EDF Nuclear Operations estate also includes sites of historic and landscape value. In recognition of this, EDF Nuclear Operations has developed ILMPs, which set out objectives, policies and prescriptions for managing the land, aimed at protecting and enhancing wildlife, conserving the local landscape character and historical heritage whilst encouraging public access, education and community participation.

Hunterston B

Overview

The Hunterston B site extends to approximately 225ha of which only c. 36ha comprise operational land (power station and associated infrastructure). The non-operational land comprises semi-improved pasture, dune and marshy grassland as well as woodland plantations (formerly part of the parkland associated with the Hunterston Estate). The non-operational area also encompasses a series of arable fields and permanent semi-improved pasture known as Southannan Fields and an area of tidal foreshore forming part of Hunterston Sands. The coastal margins and inter-tidal area comprise part of the Southannan Sands SSSI, an important nationally designated site for nature conservation.

The non-operational part of the estate at Hunterston supports a range of breeding birds and various notable species including otter, brown hare, several species of bat and common toad as well as good diversity of butterfly species.

Land Management Actions

The objectives of the Hunterston action plan, based on the key ecological features associated with the site and upon which management and monitoring are focused, are set out below together with the actions taken between 2020 and 2022 to meet those targets and achieve biodiversity gain.

- *Manage the woodlands to achieve an uneven age structure with canopy, shrub understory and ground flora to improve their habitat potential for wildlife*

  The mature woodland blocks are managed on rotation, with different areas subject to thinning, planting and/or rhododendron and scrub control to maintain an uneven age structure with canopy, shrub understory and ground flora, to improve their habitat potential for wildlife. Between 2020 and 2022, woodland management targeted trees rendered unsafe through storm damage. For example, damaged limbs from a large ash in front of Hunterston House were removed in 2020. This enabled the tree to be retained, ensuring a positive compromise between safety and the retention of a valuable habitat feature. In 2021, a sycamore on Largs Avenue, severely affected by honey fungus, was cut to 3m and

left as a monolith with veteranisation slits cut to provide habitat for invertebrates and bats.

An area of old fly tipped waste in Hill house woods was cleared in 2022.

Tied to Hunterston's objective for invasive non-native species (INNS), *rhododendron ponticum* shrubs were targeted and removed during the period. The aim of this work being to enable woodland understory to regenerate naturally in cleared areas. Additional habitat will be created in these areas for invertebrates by moving branches from a monolithed ash (additional to the one previously mentioned) into the clearing and using a drill to create holes, for example, for solitary bees.

Bird and bat boxes were checked annually, with damage repaired and broken ones replaced.

- *Restore boundary features (where in keeping with the parkland landscape design) to act as functioning wildlife corridors and habitats*

During 2016-17, approximately 1900m of hedgerow was planted across the estate. The condition of each hedge is surveyed each year. Between 2020 and 2022, hedgerow management focused on the hedges along the access road. These hedges were subject to beating up and aftercare, replacing 250 dead plants with a mix of hawthorn, blackthorn and holly, suppressing weeds through strimming, and straightening up tree guards. In places, were new hedgerow had been planted, excess rush growth was retained to act as a layer of natural protection against any herbivore browsing.

- *Manage the grassland habitats along the road verges and coast to improve species diversity*

Prior to 2015 the verges along the main station access road were mown frequently, and uniformly, for amenity purposes. They provided only a very limited resource for biodiversity. Since 2015, a less intensive mowing regime has been in operation with the aim of increasing floristic diversity, to benefit invertebrates (particularly pollinators), whilst still providing areas of short grass for foraging oystercatcher, curlew, and song thrush. This continued between 2020 and 2022.

Rabbit fencing was added in places along the coast in 2020 to prevent rabbit overgrazing a sensitive area of grassland. Sea buckthorn was carefully managed through strimming to prevent dominance between 2020 and 2022.

In 2021, an area of coastal grassland, which had developed an unfavourable cover of 'undesirable' weed species such as docks and thistles, was reseeded. The seed mix included a selection of salt and wind tolerate wildflowers and grasses which aimed at attracting a range of butterflies, bees and hoverflies. Also in 2021, 100 kidney vetch (*Anthyllis vulneraria*) plugs were planted along the coastal grassland. This aims to support the expansion of small blue butterfly (*Cupido minimus*) within Ayrshire.

Between 2020 and 2022, the management strategy of tolerating native weeds, specifically ragwort, has slowly been maturing across the Estate. This is carefully balanced with the needs of the tenant farmer. For example, ragwort removal on the access road is left until just before it sets seed, so that it has a full season as

	a provision for pollinators but does not affect the hay generated from it and used as cattle bedding.
• *Protect and manage waterbodies to maintain water quality*	In 2020, 800kg of Moray pebbles were laid on top of the existing pebbles on a small island in a pond on the Estate. This was in an attempt to supress vegetation growth and maintain a clear surface desirable to nesting oystercatchers. In spring 2021, barley straw bales were placed into the pond to try and prevent the growth of algae. When barley straw begins to decompose, it releases chemicals into the water that inhibits the growth of algae. Disappointingly, the blanket weed returned during the summer of 2022, despite the presence of the barley straw bales. In February 2022, a section of the drainage ditch adjacent to the pond outflow pipe was slubbed-out in an effort to reduce flooding to the fields surrounding the pond and to improve its value as a biodiversity resource.
• *Monitor and control invasive species, particularly Himalayan balsam*	There are two invasive non-native species on the estate: Himalayan balsam and common rhododendron, both of which are actively managed to minimise their presence. This was continued between 2020 and 2022.

Other positive works for biodiversity include:

- The establishment of a winter bird seed crops between 2020 and 2022 in arable land on the Estate. Buckwheat, triticale, spring wheat, linseed and fodder radish seeds were sown. Within the locality of Hunterston, arable farming is principally based on winter crops which leaves a very limited overwinter food resource for wild birds. The establishment of this winter seed crop will provide a good resource for overwintering birds on the estate.
- Thirty tyres were cleared from the foreshore along Hunterston Sands during April 2020. It is not known from where these originated but they were removed for disposal. As a response to greater use during periods of Covid lockdowns, higher levels of litter and debris were noted through 2020 and 2021. This too was cleared, as much as possible, and disposed of.
- In 2021, following confirmation of otter (*Lutra lutra*) activity along the coast an opportunity to install an artificial holt on the Estate was identified. Various locations were considered, but a small area of flatter ground on the east bank of the Burn Gill was identified as the most suitable option. A holt, manufactured from recycled plastic, was installed in June. Brash and turf was built up against the side to both conceal and integrate it with the surrounding habitat.
- As part of the Queen's Jubilee celebrations in April 2022 a 6ft sessile oak, with a hand-made steel tree guard and bespoke engraved plaque, was planted.

Torness

Overview

The Torness site extends to approximately 144ha of which 29.7ha comprises operational land (power station and associated infrastructure). 71.5ha of the site is land in active agricultural use. To the east of the Station is an area (19ha) of semi-improved neutral grassland, formally a contractors laydown/compound area. At Skateraw, the estate covers a small area of semi-natural broadleaved woodland, located within a steep sided gulley, through which flows a narrow stream. There is a small woodland plantation on the southern boundary of the Estate near Thorntonloch.

The site supports a range of breeding birds and various notable species including otter, brown hare, bats and common toad.

Neighbouring the site to the north is the Barns Ness Coast SSSI, another site of national importance to nature conservation.

Land Management Actions

The objectives of the Torness action plan, based on the key ecological features associated with the site and upon which management and monitoring are focused, are set out below together with the actions taken between 2020 and 2022 to meet those targets and achieve biodiversity gain.

- *Maintain and enhance grassland habitats*

Grassland plots were established in 2014 in four different grassland locations around the Torness estate. During the period 2020-2022, these plots were strimmed and the arisings removed - once in spring and once in autumn. The aim of this management is to prevent coarse grass species from outcompeting less vigorous grasses and wildflowers. This will enhance the grassland habitat for butterflies and other invertebrates whilst maintaining areas of shelter and a food resource for passage birds.

Ragwort control is undertaken at the estate; although a culture of tolerance is employed to this species, as ragwort benefits a number of different invertebrate species. Whilst there was growth during the period, control was not deemed necessary between 2020 and 2022.

During the early stages of the Covid 19 lockdown in 2020, grass cutting activities within the Station boundaries were limited to public and prominent areas which allowed the sward height to increase. This in turn allowed valuable micro-habitats to develop in some of the less visible areas of operational site which were very popular with butterflies and other pollinators. Given this, this reduced pattern of cutting will be maintained within the station.

Rock rose on the Skateraw embankment was subject to cautious strimming around the plants in 2020 and 2022 as part of the spring and autumn plot strimming. The aim of this work is to reduce competition from surrounding grass species so that these plants will thrive and attract northern brown argus butterflies. In addition in 2021, kidney vetch and further rock rose plugs were planted to benefit small blue butterfly and were well-established by 2022.

The outage car park bunds were left unmanaged in 2022 following the decision to move the annual strim to spring, rather than autumn, to retain the seed heads over the winter for birds and invertebrates.

Sixty plug plants of common dog-violet were planted in late 2021 along the seawall moat. Violets are the caterpillar food plant of dark green fritillary butterflies and it is hoped that increasing the amount of habitat resource for this species will support growth in the local population.

- *Maintain woodland and scrub habitats (as landfall shelter to passage birds)*

From 2020-2022, management of established woodland focussed on maintaining safe access and post storm checks. Work involved selective thinning /felling of trees and removal of unsafe branches as required. Management of younger planting focussed on encouraging establishment through replacement of unsuccessful stock, weed control, and checks on tubes and supports.

Signage was maintained in the woods at Skateraw to encourage visitors to leave cut branches and brash in place to provide shelter for invertebrates and birds, as they are frequently removed to be used as firewood on the beach.

In June 2022, the Safety Walk identified two windblown Scots pine near the Visitor Centre. In July, these were cross-cut and the arisings left as fallen deadwood as a resource for invertebrates.

In 2019, 400 whips were planted at Thorntonloch. The 'undesirable' weed cover was stimmed off from around the bases of these during the spring of 2020. This vegetation had acted as protection for the young whips over the winter period, but over the growing season would have been competition for resources. In December 2022, this planting was supplemented with a mix of approximately 300 alder buckthorn, dog-rose, blackthorn and gorse bare root whips. In addition a further 400 whips, including field maple, beech, wild cherry and silver birch, were planted in 2022 to help enhance the biodiversity value of an area of scrub near the station. The intention is that this will develop from a species poor area of scrub into a more species rich copse. This was done by volunteers as part of a National Tree Planting week run by one of EDF's contractors.

- *Maintain farmland bird populations*

Bird boxes were checked annually between 2020 and 2022, with damaged boxes repaired or replaced.

The bird feeders, sited between the Visitor Centre and Thorntonloch Embankment, were replenished with a wild bird seed mix during the winter months between 2020 and 2022.

In spring 2022, the Station was within a statutory outage and required use of the outage car park which is routinely used by waders for breeding. In response to this, EDF roped off four of the seven sections of the car park to provide space for nests. This was supported by signage at the car park entry and exit points explaining to staff and visitors why areas were not available for parking. The measures were successful with three ringed plover pairs nesting and chicks fledging.

The field margins continue to provide a valuable number of interconnected habitats across the Estate at Torness. Both those seeded with wildflower mixes by the tenant farmer and those left to regenerate naturally have provided food and habitats for species throughout the year.

In 2022, for the first time and at the encouragement of EDF, the tenant farmer over-wintered a stubble field for the benefit of grey partridge and hopes to do

the same in winter 2023, as well as sowing one of his six main fields with an additional bird cover crop through winter.

- *Monitor and control invasive species where required (giant hogweed and burnet rose)*

Giant hogweed was first identified at Torness in 2014. This plant is a non-native and invasive species in the UK and can be harmful to humans if there is contact between the sap and skin. Between 2020 and 2022, annual checks of the giant hogweed site at Links Cottage were undertaken in June to determine if any plants had re-grown. This species had not regrown in either 2020 or 2021 but a single plant was recorded in 2022. The flower head was removed, before it could set seed, and topsoil from the cottage garden in which it grew scraped and levelled. It is thought that this plant germinated from a seed in the cottage garden seed bank and so hopefully these works will have cleared the area of remaining seeds.

There is a large continuous patch of burnet rose on the dunes at Thorntonloch. If left unmanaged this species could potentially dominate the dune habitat and outcompete other more ecologically desirable species. Between 2020 and 2022, the extent of burnet rose was monitored annually, with management action taken in each year to control the extent of growth.

- *Work in partnership with NatureScot to minimise impact of visitors on Barns Ness Coast SSSI, specifically the area that overlaps with EDF Energy landholding, to improve the condition of the SSSI interest features*

The slipway at Skateraw was damaged in 2019 through a combination of high tides and storms undermining the seaward edge of the structure and incorrect use by members of the public. This was repaired in the summer 2020 with the hope that this will reduce damage to sensitive grassland habitat, which comprise part of the Barns Ness SSSI, from visitor pressure at this location.

Also to reduce visitor pressure, the pathway at Skateraw was strimmed in June 2020 and 2021 to provide a clear and safe route through the grass. This is completed with the aim of encouraging visitors to stick to the path and avoid walking freely across this area.

General maintenance, repair of fencing and signs, as well as clearance of fly-tipped waste from around the Barns Ness SSSI was routinely undertaken between 2020 and 2022.

Other positive works for biodiversity includes:

- The programme of rabbit fencing installation and repair along Thorntonloch embankment continued between 2020 and 2022. Rabbits burrowing in the embankment continue to feed in the adjacent field, however the gaps through which they can gain access are diminishing due to the fence. Further sections will be completed as required over the coming years.
- In 2021, two bat boxes located on the Visitor Centre were relocated away from artificial lighting to nearby young pine trees on the edge of the car park. In Thorntonloch Wood, three bat boxes that have been unused by bats in the centre of the woodland were relocated to the eastern edge where there is less cluttered access. A further three new bat boxes were also installed, bringing the total of bat boxes in Thorntonloch woodland to six boxes. It is hoped that these measures will increase the successful uptake of the bat boxes.
- Six new bins and a number of dog waste bins were installed in 2020 along the Coastal Pathway from Thorntonloch to the northern end of the Sea Wall. The Station installed these due to a rising number of incidents of dog waste and fishing waste being left on the route. Signage was also installed to encourage users

to use the bins.

- As part of the Queen's Jubilee celebrations in 2022, April saw the unveiling of the Jubilee Tree: a 6ft sessile oak with hand-made steel tree guard and bespoke engraved plaque.
- During the summer heatwave, EDF created a mini waterhole to support the local population of house martins. They are reliant on wet mud, collected from pond and puddle edges, to build and repair their cup shape nests. The water feature was subsequently used by many other species, as documented on a carefully placed trail camera including a drinking stoat and rabbit, and a range of birds including pied wagtails, linnet, robin and carrion crow.

4. Monitoring

Regular biodiversity monitoring is completed at both Hunterston B and Torness to ensure compliance with the Biodiversity Benchmark accreditation and to assess progress against EDF Nuclear Operations BAP objectives.

Hunterston B

The following biodiversity monitoring surveys are undertaken at Hunterston B, with an ad-hoc record of wildlife sightings also kept:

Group	Frequency of monitoring	Year of most recent monitoring to this report
• breeding birds	biennially	completed 2021;
• wintering birds	biennially	completed 2020/2021;
• bat roost checks	annually	completed 2022;
• grassland habitat	3-year intervals	completed 2022;
• butterflies	annually	completed 2022; and
• ponds	annually	completed 2022.

Using the results of the biodiversity surveys, progress towards the Hunterston BAP objectives have been assessed as follows for the period 2020 to 2022 (**Table 1**).

Table 1 – Hunterston B Action Plan Objective Assessment

Objective	KPI	Target	Assessment result 2020	Assessment result 2021	Assessment result 2022
Manage the woodlands to achieve an uneven age structure with canopy, shrub understory and ground flora to improve their habitat potential for wildlife	Number of breeding bird species within woodland areas	Minimum of 20 species recorded per year.	**NOT ASSESSED** No breeding bird survey was undertaken in 2020. The next survey will be in 2021.	**ACHIEVED** 38 species recorded as confirmed or probable breeding.	**NOT ASSESSED** No breeding bird survey was undertaken in 2022. The next survey will be in 2023.
	Presence of bats in boxes	Continued use of the boxes by bats.	**ACHIEVED** Confirmed roosts recorded during the bat box survey. Increase in number of bats found roosting.	**ACHIEVED** Confirmed roosts recorded during the bat box survey.	**ACHIEVED** Confirmed roosts recorded during the bat box survey.

Objective	KPI	Target	Assessment result 2020	Assessment result 2021	Assessment result 2022
Restore boundary features (where in keeping with the parkland landscape design) to act as functioning wildlife corridors and habitats	Metres of new hedgerows planted or restored	Restore 250m of hedgerow and stone walls over 5yr period. Target amended in 2022 to 'Undertake annual maintenance of hedgerows'.	**ACHIEVED** 1900m of new hedgerow planted over the estate in 2016-17. These were maintained in 2020.	**ACHIEVED** 1900m of new hedgerow planted over the estate in 2016-17. These were maintained in 2021.	**ACHIEVED** 1900m of new hedgerow planted over the estate in 2016-17. These were maintained in 2022.
Manage the grassland habitats along the road verges and coast to improve species diversity	Number of lowland meadow grassland indicator species	Presence of minimum of ten grassland indicator species across the site.	**NOT ASSESSED** This indicator was not monitored in 2020.	**NOT ASSESSED** This indicator was not monitored in 2021.	**ACHIEVED** A total of 14 grassland indicator species were recorded.
	Number of butterfly species	Minimum of five species recorded per year. Target amended in 2022 to minimum of ten species.	**ACHIEVED** 14 species of butterfly were recorded in 2020 within transects.	**ACHIEVED** 12 species of butterfly were recorded in 2021 within transects.	**ACHIEVED** 13 species of butterfly were recorded in 2022 within transects.
Protect and manage waterbodies to maintain quality	Condition of ponds	Achieve 'brilliant' pond condition on an annual basis (based on The Freshwater Habitats Trust Big Pond Dip method). Target amended in 2022 to achieve 'Good' to recognise the estuarine characteristics of the pond.	**ACHIEVED** The Big Pond Dip was undertaken in 2020; and the pond achieved a 'Brilliant' rating.	**NOT ACHIEVED** The pond achieved a 'good' rating. Due to estuarine characteristics of the pond it may not be possible for KPI to be routinely met.	**ACHIEVED** The Big Pond Dip was undertaken in 2022; and the pond achieved a 'Good' rating.
Monitor and control invasive species, particularly Himalayan balsam and rhododendron	Treatment of invasive species completed	Undertake annual treatment and/or management of invasive species.	**ACHIEVED** Himalayan balsam and rhododendron successfully treated.	**ACHIEVED** Himalayan balsam and rhododendron both treated.	**ACHIEVED** Himalayan balsam and rhododendron both treated.

Biodiversity highlights from the monitoring period 2020 to 2022 include:

2020:

- 13 confirmed roosts were recorded during the bird and bat box survey.
- 723 butterflies were recorded across 14 butterfly species during the transect surveys.
- Despite no moth trapping being carried out in 2020, a new moth species *Depressaria daucella* was added to the moth list, bringing the Estate Moth List to 61 species recorded on transects and through trapping.

- Three new 'Other' invertebrate species were recorded, bringing the Estate Others List to 43.

2021:

- The breeding bird survey recorded a record number of 224 breeding pairs. 38 species were observed with evidence of breeding, a record high.
- The wintering bird survey recorded 82 species throughout the survey season. Four of these species were recorded for the first time; great northern diver (*Gavia immer*), golden plover (*Pluvialis apricaria*), purple sandpiper (*Calidris maritima*) and blackcap (*Sylvia atricapilla*).
- One new moth species was identified, barred straw (Gandaritis pyraliata), bringing the Estate Moth List to a total of 62 species.
- Two new 'Other' invertebrate species were recorded, including the orange-tailed mining bee (*Andrena haemorrhoa*) and common froghopper (*Philaenus spumarius*), taking the Estate Others List to 45 species.
- A dead harvest mouse (*Micromys minutus*), a species considered to be very rare in Scotland, was found in close proximity to a copse of alder trees in July 2021.

2022:

- A new bat roost was recorded in one of the trees onsite.
- The grassland verge survey recorded 65 herb species, the highest number over the three surveys to date.
- New moths seen by day on the transects including brown China-mark and shoulder-striped wainscot, a Scottish Biodiversity List species.
- Two new 'Other' invertebrate species were recorded; the black snipefly and the dark giant horsefly taking the Estate Others List to 47 species.
- A National Harvest Mouse Survey, both onsite and among adjacent areas of the coast to Hunterston, recorded at least eight harvest mouse nests.

Torness

The following biodiversity monitoring surveys are undertaken at Torness on a regular basis, with an ad hoc record of wildlife seen also kept:

Group	Frequency of monitoring	Year of most recent monitoring to this report
breeding birds	annually	completed 2022;
wintering birds	annually	completed 2021/2022;
grassland habitat	3-year intervals	completed 2020;
butterflies	annually	completed 2022;
Invasive species	annually	completed 2022

Using the results of the biodiversity surveys, progress towards the Torness Action Plan objectives have been assessed as follows for the period 2020 to 2022 (**Table 2**).

In addition to the formal monitoring surveys, the following informal surveys are also completed on the Torness estate:

Group	Frequency of survey	Year of most recent monitoring to this report
bat surveys	annually	completed 2022;
moth trapping	annually	completed 2022.

Table 2 – Torness Action Plan Objective Assessment

Objective	KPI	Target	Assessment result 2020	Assessment result 2021	Assessment result 2022
Maintain and enhance grassland habitats	Lowland meadow: Species-richness of managed plots	Achieve 25% greater species-richness within the managed plots than unmanaged monitored areas over five years	**PARTIALLY ACHIEVED** Two out of four plots achieved their target.	**NOT ASSESSED**	**NOT ASSESSED**
	Number of butterfly species	Minimum of 10 species recorded per year	**ACHIEVED** 18 species recorded.	**ACHIEVED** 18 species recorded.	**ACHIEVED** 18 species recorded.
Maintain woodland and scrub habitats (as landfall shelter to passage birds)	Extent of woodland and scrub habitats	No net loss of habitat area over five-year period	**ACHIEVED** No net loss of habitat area. Small increase achieved maintaining the recent shrub planting within the former wildflower strip.	**ACHIEVED** No net loss of habitat area. Small increase achieved.	**ACHIEVED** No net loss of habitat area. The area of woodland/scrub habitat increased as further planting was carried out.
Maintain farmland bird populations	Number of breeding bird species	Minimum of 25 species recorded per year	**ACHIEVED** 31 species recorded as breeding.	**ACHIEVED** 26 species confirmed breeding.	**ACHIEVED** 50 species recorded, and 30 confirmed breeding on site.
	Number of wintering bird species	Minimum of 30 species recorded per year	**ACHIEVED** 58 species recorded.	**ACHIEVED** 52 species recorded.	**ACHIEVED** 53 species recorded.
Monitor and control invasive species where required (giant hogweed and burnet rose)	Treatment of invasive species completed	Undertake annual treatment and/or management of invasive species	**ACHIEVED** The area of burnet rose re-growth has been effectively managed. The giant hogweed has been effectively managed.	**ACHIEVED** The area of burnet rose re-growth has been effectively managed. The giant hogweed has been effectively managed.	**ACHIEVED** The area of burnet rose has been effectively monitored. The giant hogweed has been effectively controlled and monitored.
Work in partnership with SNH to minimise impact of visitors on Barns Ness Coast SSSI, specifically the area that overlaps with EDF Energy landholding, to improve the condition of the SSSI interest features	Presence and condition of measures to protect SSSI features	Ensure all measures to minimise disturbance are implemented and maintained over duration of BAP	**ACHIEVED** Skateraw slipway has been repaired. Signage remains in place. Campfires and BBQ use are being monitored.	**ACHIEVED** Signage remains in place. Campfires and BBQ use are being monitored.	**ACHIEVED** Abandoned caravans reported and removed. Damaged fire safety sign reported and repaired. Fly tipping reported and removed.

Biodiversity highlights from the monitoring period 2020 to 2022 include:

- The 2021 invertebrate survey achieved the highest annual total since records at Torness began, with 1,815 individual butterflies recorded over the four transects.
- The Torness butterfly species list now stands at 21 species (although not all present in a single year) - new species recorded in 2020 were small skipper, large skipper and dark-green fritillary, a single brimstone was recorded in 2021 and holly blue was recorded in 2022.
- Although only a single peregrine chick fledged in 2022, this was the 50th chick to have fledged from the power station in the past 22 years of monitoring.
- Ringed plover have now been recorded breeding on the site for three years.
- Three new species, barnacle goose, shelduck and woodcock, were recorded during the wintering bird survey of 2022.
- Two new moth species were also recorded in 2022, bringing the total for the site to 186 species.
- There were six new 'other invertebrate' species recorded in 2021, which brought the list to 117. This included a discovery of ivy mining bee, found at Thorntonloch, which was confirmed as the first record of this species in Scotland.
- In 2021, after discovering a resting bat on an outside wall at the Station, and subsequent DNA testing of its droppings, a whiskered bat was reported as a first record of this species at the site and a rare record for Scotland.

5. Partnership

EDF aims to work with other conservation organisations, its tenants, the local community and its employees not only to foster a wider appreciation of the company's sustainable land management, but to actively involve others in decision making and the on-going management activities which result in a positive contribution to biodiversity. Generally, two land management meetings are held per annum for the Scottish estates to discuss management activities and biodiversity monitoring results, with local representatives attending from organisations such as Scottish Natural Heritage (now NatureScot), local Councils and local Wildlife Trusts. EDF also encourages residents and visitors to enjoy the ecological resources present on the non-operational parts of their estates through the provision of permissive paths, guided walks, visitor days, interpretation boards and facilities.

Hunterston B

Due to the Covid 19 pandemic the Visitor Centre was closed in mid-March 2020. It remained closed throughout 2021 and 2022. No additional community engagement occurred during this time; a sharp contrast to previous years. Overall, since 2012 there have been 19,803 visitors at Hunterston and the Centre has hosted visitors from schools, local interest groups and individuals wanting to learn a little more about the Station and biodiversity on the Estate.

Torness

After hitting the milestone of 30,000 visitors to Torness Visitor Centre in November 2019, 2020 was an entirely different. January and February were the only full months the Centre was able to keep its doors open to visitors, before closing in March due to Covid 19. Despite this, annual events did go ahead including the Easter Egg Hunt, the Summer Nature Trail and the Christmas Cracker.

The Visitor Centre has not reopened for Station tours in 2021, again due to Covid 19. Although the Visitor Centre was closed, the Station continued to engage with the public through charity efforts. Workers at the site donated collections for numerous charities including Cash for Kids Mission Christmas and Edinburgh Dog and Cat Home.

The Visitor Centre reopened for Station tours in September 2022. No community events on the wider estate were facilitated by the Visitor Centre, however, due to a precautionary approach to returning to normal following the Covid 19 pandemic.

EDF met with the ELC Water Safety Group in 2021 and 2022; engagement and sharing of ideas and experience with the Council with one success story being a reduction in beach fires.

Following a Visitor Safety Assessment Survey in 2021, two main were identified: engagement and signage. In response to this in 2022, a number of small alterations to existing signs were completed. The focus of these changes were to engage groups and individuals sighted fishing in potentially dangerous locations along the coast.

6. The Wider EDF Estate

It is not just at Torness and Hunterston that EDF manages its non-operational areas with careful recognition of the key ecological features associated with its landholdings. Each of the other five power station sites (Hinkley, Sizewell, Dungeness, Hartlepool and Heysham) have their own individual ILMPs which include a set of objectives based on the key ecological features associated with that site and upon which management and monitoring are focused. These combined contribute towards the overall estate-wide BAP.

In terms of the wider EDF Nuclear Operations estate, the contributions made by the seven sites towards the estate-wide action plan objectives for 2020 to 2022 are set out in **Table 3**.

Table 3 – Estate-wide biodiversity action plan assessment

Theme	Objective	KPI	Target	2020	2021	2022
Conserve	Nuclear Operations will seek, wherever feasible, to conserve and enhance biodiversity at each of its principal sites, primarily through its approach to land management, but also through its business operations and the development of new assets.	Number of sites complaint with Biodiversity Benchmark criteria	All sites assessed to be compliant.	**ACHIEVED** All sites are currently assessed as being compliant with the Biodiversity Benchmark criteria.	**ACHIEVED** All sites are currently assessed as being compliant with the Biodiversity Benchmark criteria.	**ACHIEVED** All sites are currently assessed as being compliant with the Biodiversity Benchmark criteria.
Partner	Nuclear Operations will seek to maintain and where appropriate develop further partnerships with selected stakeholders for the delivery of ecological improvement schemes on its land or in the vicinity of its main operational sites.	Number of land management meetings held per annum involving partners	Engage with local partners at a minimum of 18 meetings per annum across all sites	**UNDETERMINED** Engagement was reduced in 2020 due to the effect of the Covid 19 pandemic. 10 land management meetings held across the fleet, plus weekly calls for Sizewell.	**ACHIEVED** 19 land management meetings held across the fleet, plus weekly calls for Sizewell.	**ACHIEVED** 21 land management meetings held across the fleet.
Communicate	Nuclear Operations aims to increase the awareness of both its employees and local communities of biodiversity issues and the opportunities for its enhancement through education, participation and partnership.	Number of people engaging with biodiversity across the landholding and digitally.	Increase engagement annually by 5% over previous year.	**UNDETERMINED** Engagement severely affected by Covid 19, with centres closed and events cancelled. As a result a much lower number than anticipated were engaged with. However, EDF still managed to engage with a total of 1,927 people in relation to biodiversity over the course of 2020.	**UNDETERMINED** Engagement continued to be affected by Covid-19, with visitor centres closed. Nonetheless, EDF engaged with a minimum of 5,431 people in relation to biodiversity over the course of 2021.	**ACHIEVED** EDF engaged with a minimum of 6017 people in relation to biodiversity over the course of 2022. This is an 11% increase from 2021.

Action	Biodiversity gain will be delivered through the implementation of the Site Action Plans	Percentage of positive outcomes for Site Action Plan KPIs	80% of KPIs measured each year achieved.	**UNDETERMINED** Survey activity limited due to restrictions associated with the Covid 19 pandemic. 78% of KPIs that were planned to be assessed in 2020 were achieved. Four KPIs were not achieved. Three KPIs were partially achieved. Two KPIs are in progress towards being achieved. Three KPIs have be classified as undetermined as the survey could not be fully completed due to the Covid 19 pandemic. Five KPIs were not measured.	**ACHIEVED** 81% of the KPIs measured were achieved. 11% were not achieved. 6% are In Progress or Partially Achieved and 2% were undetermined.	**ACHIEVED** 91% of KPIs[7] achieved, 7% are In Progress and 2% were not achieved.
Monitor	Nuclear Operations will maintain a comprehensive ecological survey programme to facilitate the regular updating of the base data for each of its sites.	Completion of monitoring surveys detailed in ILMPs and BAP	80% of surveys planned each annum completed	**ACHIEVED** 96% of EDF Nuclear Operations surveys planned for 2020 were undertaken, but not all were fully completed with the required number of survey visits.	**ACHIEVED** 100% of EDF Nuclear Operations surveys planned for 2021 were completed, but not all were fully completed with the required number of survey visits.	**ACHIEVED** 100% of surveys planned for 2022 were completed.
Report	Nuclear Operations will report to partners and stakeholders on our biodiversity performance.	Number of reports issued per annum providing information on biodiversity performance	A minimum of one annual report per site and one additional update (e.g. newsletter).	**ACHIEVED** Annual report for seven stations and two newsletters.	**ACHIEVED** Annual report for seven stations and two newsletters.	**ACHIEVED** Annual report for 7 stations produced and two newsletters.

A few biodiversity highlights from across the wider EDF Nuclear Operations Estate:

- At Dungeness in 2020, sea radish appeared on the strandline for the first time in 66 years and long-eared owls successfully breed, in an old crows nest in the area of scrub, with three young successfully fledging. Also at Dungeness in 2022, a fresh-looking downy emerald dragonfly was found at the top of the Long Pits in May which is only the second record of this species for Dungeness.
- At Hartlepool in 2021, an Essex skipper butterfly was recorded on the Stell transect which brings the site butterfly list to 25 species.
- A new botanical survey at Hartlepool in 2022, confirmed the grassland habitats support five different species of orchid, namely: northern marsh orchid, common spotted-orchid, pyramidal orchid, bee orchid and marsh fragrant-orchid. This diversity is attributed to the sensitive grassland cutting regime implemented, involving cutting the grassland on a rotational basis late into September, which is significantly benefitting the species present by allowing them to set seed.
- At Sizewell, an abundant colony of flat sedge, a Section 41 species, was confirmed in 2020. This species showed a clear preference for areas of shorter sward and was found to have colonised in localised patches.
- Nightingale, last recorded in 2016, was recorded singing at Sizewell in 2020. Juvenile marsh harriers were also recorded over the Estate in the same year. It is likely these juveniles dispersed from Minsmere.
- During the wintering period 2020, a bittern was recorded taking off from a dyke along the southern border of the marshes at Sizewell.

[7] Excludes results from Sizewell

Appendix A - Legislation

Nature Conservation (Scotland) Act 2004: Part 1 Biodiversity

1 Duty to further the conservation of biodiversity

- (1) It is the duty of every public body and office-holder, in exercising any functions, to further the conservation of biodiversity so far as is consistent with the proper exercise of those functions.
- (2) In complying with the duty imposed by subsection (1) a body or office-holder must have regard to—
  - (a) any strategy designated under section 2(1), and
  - (b) the United Nations Environmental Programme Convention on Biological Diversity of 5 June 1992 as amended from time to time (or any United Nations Convention replacing that Convention).

2 Scottish Biodiversity Strategy

- (1) The Scottish Ministers must designate as the Scottish Biodiversity Strategy one or more strategies for the conservation of biodiversity (whether prepared by them or by one or more other persons).
- (2) The Scottish Ministers must publish any strategy so designated in such manner (including on the internet or by other electronic means) as they think fit.
- (3) A strategy so designated may include different provision for different cases or types of case.
- (4) Within one year of a strategy being so designated, the Scottish Ministers must publish, in such manner (including on the internet or by other electronic means) as they think fit, lists of—
  - (a) species of flora and fauna, and
  - (b) habitats considered by the Scottish Ministers to be of principal importance for the purpose mentioned in section 1(1).
- (5) The Scottish Ministers may from time to time review any lists published under subsection (4).
- (6) Where, following such a review, the Scottish Ministers consider that any such lists should be revised they must publish revised lists under that subsection.
- (7) The Scottish Ministers must, within 3 years of the date on which—
  - (a) they first designate a Scottish Biodiversity Strategy, or
  - (b) a report was last laid under this subsection, lay a report before the Scottish Parliament regarding the implementation of the strategy.

2A[8] Reports on compliance with biodiversity duty

- (1) A public body must prepare and publish a biodiversity report within 3 years of—
  - (a) the base date,
  - (b) the date on which a report was last published by the body under this subsection.
- (2) A biodiversity report is a report on the actions taken by the body in pursuance of its duty under section 1 during the period to which the report relates.
- (3) The base date is—
  - (a) the date on which section 36 of the Wildlife and Natural Environment (Scotland) Act 2011 (asp 6) comes into force, or
  - (b) where the body is established after that date, the date on which the body is established.
- (4) A report under this section—

[8] S. 2A inserted (1.1.2012) by Wildlife and Natural Environment (Scotland) Act 2011 (asp 6), ss. 36, 43(1) (with s. 41(1)); S.S.I. 2011/433, art. 2(1)(h)

(a) is to be prepared in such form and published in such manner as the body thinks fit,
(b) may be incorporated within another report prepared or published by the body.