

# NFLA New Nuclear Monitor Policy Briefing



Edition Number 67, August 2021

## Public inquiry on Hinkley Point C Acoustic Fish Deterrents – what could be the huge impact on marine life if they are not built?

### i. Overview of Policy Briefing

This edition of the NFLA New Nuclear Monitor has been kindly provided by Pete Roche and the Stop Hinkley group. It provides a detailed report on the core biodiversity issues at stake in a public inquiry held following a request by EDF Energy to renege from a licence condition to build 'Acoustic Fish Deterrents' on the intake pipes that will be built to move cooling water between the new nuclear reactor and the sea.

This issue is of real concern given the huge level of fish deaths that has been predicted if such deterrents are not built. It is one of a number of biodiversity concerns around new nuclear which will be the focus as well of a joint webinar the NFLA is involved in organising. This takes place on the 7<sup>th</sup> October with speakers including prominent environmentalist Jonathon Porritt, CEO of the Wildlife Trusts Craig Bennett, and former CEO of Good Energy Juliet Davenport. To register for this webinar please go to: <https://gmdcnd.com/wildlife/>

### 1. Background

A condition placed on EDF by the Environment Agency (EA) when it was awarded permission to build Hinkley Point C was that Acoustic Fish Deterrents (AFDs) would be placed on the two massive cooling water intake heads 3 kilometres offshore from the nuclear site. EDF is now trying to renege on its commitment and is seeking a variation on the planning conditions imposed.

Stop Hinkley's Briefing on EDF's Appeal against the Environment Agency's Deemed Refusal to allow a permit variation relating to the installation of an Acoustic Fish Deterrent at Hinkley Point C is available here:

[https://www.no2nuclearpower.org.uk/wp/wp-content/uploads/2021/01/AFD\\_Briefingv2.pdf](https://www.no2nuclearpower.org.uk/wp/wp-content/uploads/2021/01/AFD_Briefingv2.pdf)

In late November 2019 the EA advised EDF that its preliminary position was that it was unable to conclude removal of the AFD would have no adverse effect. On 4 August 2020 EDF served the EA with a deemed refusal notice, and in September appealed to the Secretary of State against the deemed refusal.

The appeal was heard by the Planning Inspectorate (PINS) from 8 to 24 June 2021. PINS normally hears and makes decisions on permit appeals. In this instance, the Secretary of State for Environment and Rural Affairs, Rt Hon. George Eustice MP, has decided he will make the final decision.

## 41 YEARS AS THE LOCAL GOVERNMENT VOICE ON NUCLEAR ISSUES

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PINS is now producing a report presenting recommendations for final determination by the Secretary of State, who will either uphold or dismiss the appeal brought by EDF subsidiary, NNB GenCo. A decision is expected in the next three months.

The Severn Estuary supports some of the most important and protected habitats in the UK, with its vast tidal range playing a major role in creating the unusual physical conditions of the Estuary. The intertidal zone of mudflats, sandbanks, rocky platforms, and saltmarshes is one of the largest in the UK. This diversity of habitats allows the Estuary to support internationally important numbers of waterfowl and large numbers of aquatic invertebrate populations. The Estuary also provides a valuable corridor for migratory fish and acts as a key nursery area for many species. The Estuary and the wider Bristol Channel have several designations for their conservation value, e.g. Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar Site and Sites of Special Scientific Interest (SSSI).

## 2. Habitats Directive

The EAs provisional conclusion on EDF's application to remove the AFD, was that its removal, without additional mitigation measures, would be unlikely to meet the requirements of Habitats Regulations which exist to protect the natural environment. These regulations require the Environment Agency to assess the impacts of EDF's proposed variation on designated habitats and species.

The EA's evidence to the public inquiry said it was not possible to conclude there would be no adverse effect on three species of concern for the Severn Estuary: Atlantic salmon, allis shad and twaite shad, if the AFD is not installed.

The European Habitats Directive ensured the conservation of a wide range of rare, threatened or endemic animal and plant species. Although some changes have been made to the Conservation of Habitats and Species Regulations 2017 (as amended), since Brexit most of these changes involved transferring functions from the European Commission to the appropriate authorities in England and Wales.

All in all, over 1.000 animal and plant species, as well as 200 habitat types, are listed in the Habitats Directive's annexes to be protected in various ways. Annex II species, for example (about 900, including twaite shad) must have core areas of their habitat managed in accordance with the ecological needs of the species.

## 3. Other Evidence Presented to the Inquiry

In a representation to the public inquiry, the Institute of Fisheries Management said:

*"Low carbon energy cannot be considered to be good for the planet if it also kills vulnerable species. It would be a sorry indictment of the UK planning system if a 21<sup>st</sup> century power generation system would be permitted to operate against a range of environmental protection measures in what is one of the most heavily designated conservation areas in the UK."*

According to the West of England Nature Partnership and the Bristol Avon Rivers Trust (BART):

*"The likely impact of removal of the AFD on fish will greatly undermine conservation work being undertaken across the Bristol Channel region to protect fish stocks, in both the marine and freshwater environments."*

The Conservation Objectives of the Severn Estuary Special Protection Area include ensuring that the integrity of the site is maintained or restored as appropriate, and to ensure that the site contributes to achieving the aims of the Wild Birds Directive. This SPA is designated for a number of bird species and water bird assemblages. All these bird species themselves rely on fish assemblages and other marine life for their food.

The Bristol Naturalists Society says if EDF is "*permitted to get away with breaking the promises and commitments*" to install an AFD, it will be a "*tragedy ... the world is facing an unprecedented ecological emergency which includes our dying oceans...the Bristol Channel provides an important nursery which enables some degree of recovery for many species.* [It

has] one of the most extensive intertidal wildlife habitats in the UK, comprising mudflats, sandflats, rocky platforms and islands. These form a basis for a varied and biodiverse flora and fauna typical of extreme physical conditions.”

If EDF is “given clearance for the absence of AFD’s, thousands of tons of fish will be sucked into the cooling system over the course of the year –and each and every year. Some of these will be protected species and some will be IUCN listed as Near Threatened or Critically Endangered species, for example, Glass Eels, Angel Sharks, many forms of Ray and the Twaite Shad. The resultant fish soup will be discharged into the Bristol Channel/Severn Estuary causing eutrophication of the area which will have an adverse effect on its overall well-being.”

Fisheries Consultant, Dr Andy Turnpenny, says documents provided in support of the developer’s case to remove the need to install AFDs at HPC contain a number of flaws. He says “*The Severn Estuary is a Special Area of Conservation important for its role as a fish nursery and migratory corridor. There is uncertainty over the exact impact Hinkley Point C will have on the fish assemblage that supports the complexity of bird species and commercial fish stocks.*”<sup>1</sup>

Natural England is particularly concerned about migratory fish species, including salmon, shad and lamprey species which are notified features of a number of SSSIs. Migratory fish are also qualifying features of the Severn Estuary SAC and Ramsar site. “*Natural England is of the opinion that the qualifying migratory fish species are currently in unfavourable condition due to anthropogenic pressures, such as physical barriers to migration.*”

It continues:

*“In accordance with the precautionary nature of the Habitats Directive and European case law, for the appeal proposal to be allowed, it will be necessary for the competent authority, to be certain beyond reasonable scientific doubt about the absence of adverse effects upon the integrity of European sites. On the balance of the considerable evidence available to date and, in particular, the EA’s ongoing (Habitats Regulations Assessment) HRA, we are of the opinion that there remains a substantial amount of reasonable scientific doubt as to the absence of such effects.”*

Fish Guidance Systems Ltd said many of EDF’s concerns over the AFD are based on a fundamental misunderstanding of the purpose of the technology. The AFD and Fish Recovery and Return (FRR) systems are designed to work in tandem, and without the AFD the FFR will result in the mass mortality of the delicate pelagic species that enter the cooling water system.

FGS Ltd accuses EDF of using factually incorrect information and implying that maintenance of the AFD system requires divers. It fails to mention that Remotely Operated Vehicles (ROVs) are used extensively in offshore locations.

Natasha Bradshaw<sup>2</sup> – the Marine Management Organisation appointee to the Devon and Severn Inshore Fisheries and Conservation Authority (DSIFCA); Trustee and Director of Severn Rivers Trust (SRT); Researcher at the University of the West of England (UWE, Bristol), says:

*“EDF’s proposed cancellation of the Acoustic Fish Deterrent (AFD) at Hinkley Point C brings into question the whole design of fish protection measures and the decision to permit Direct Cooling (DC) as Best Available Technology (BAT) for New Nuclear Build (NNB). It is not*

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<sup>1</sup> <https://www.power-technology.com/news/hinkley-point-c-fish-deterrent-repellent-acoustic-edf-energy-severn-estuary/>

<sup>2</sup> [https://consult.environment-agency.gov.uk/psc/ta5-1ud-nnb-generation-company-hpc-limited-2/supporting\\_documents/Appeal%20Document%20%203rd%20Party%20Reps%20Natasha%20Bradshaw.pdf](https://consult.environment-agency.gov.uk/psc/ta5-1ud-nnb-generation-company-hpc-limited-2/supporting_documents/Appeal%20Document%20%203rd%20Party%20Reps%20Natasha%20Bradshaw.pdf)

*acceptable to cancel one of three mitigation measures which were conditions to the permit in 2013, without consideration of alternative options. Unfortunately, the uncertainties over the effectiveness of the AFD and lack of alternatives now available at this late stage, puts the original decision to permit DC into question.”*

She continues saying that relying on predicted fish kill numbers misses the fact that the Severn Estuary provides a critically important fish nursery habitat. The limits and uncertainty of the scientific modelling to predict fish kill and its impact must be acknowledged and a precautionary approach taken. Fish kill could have much wider impacts up and down the food chain and across the ecosystem of the River Severn and River Wye and other catchments as well as the Bristol Channel and further afield. Marine mammals are likely to be put more at risk. Previous cooling water intakes (e.g. HPB) were closer inshore. HPC’s intakes will be further offshore so more likely to impact marine mammals. Harbour porpoise, which have been spotted within the Bristol Channel and Severn Estuary since January 2013 have recently been identified in need of greater protection and government are making efforts in this direction.

The Severn Estuary is one of the largest and most important mosaics of wetland habitat in Europe, according to the Wildfowl and Wetlands Trust (WWT). The estuary and its tributary rivers support a wealth of wildlife. Its coastal habitats provide a home for tens of thousands of migratory water birds, around 100 species of fish. The estuary is also a vital migration route for migratory fish, WWT manages a coastal saltmarsh on the Steart peninsula, and the proximity of HPC water cooling intake and return pipes to Steart Marshes is a particular cause for concern. Steart Marshes was created as compensatory habitat for saltmarsh loss elsewhere in the estuary due to coastal squeeze, and initial evidence strongly suggests it provides habitat for a large number of juvenile fish as there is limited saltmarsh habitat elsewhere in the estuary.

#### **4. The UK Government & Biodiversity**

The UK has failed to meet 14 of the 19 [Aichi biodiversity targets](#), which it was committed to meet by 2020.

In 2018, the Government published its [25 Year Environment Plan](#), setting out its ambition to “*leave our environment in a better state than we found it*” and “*protect the seas around us and marine wildlife ... extend the marine protected areas around our coasts*”.

More recently, the Environment Secretary, George Eustice, [announced](#) a ‘state of nature’ target aimed at halting the decline in nature in England by 2030. He said the Government would amend the Environment Bill to require an additional legally binding target for species for 2030, aiming to halt the decline of nature – a “*Net Zero equivalent for nature, spurring action of the scale required to address the biodiversity crisis*”.

Craig Bennett, chief executive of The Wildlife Trusts, was quoted in the DEFRA Press Release saying, “*It’s essential that we stop nature’s decline and restore 30% of land and sea by 2030 – doing so will help wildlife fight back and enable repaired habitats to store carbon once more.*”

The UK is leading the [Global Ocean Alliance](#) which is calling for at least 30% of the global ocean to be in Marine Protected Areas by 2030. In a [video](#) on DEFRA’s website, Sting, who is narrating, says “*Now is the time for action, to come together and to scale up effective protection for the future of us all.*”

The [House of Commons Environmental Audit Committee](#) says:

*“These policies are a welcome start, but in their current form do not represent the transformative change required to bend the curve of biodiversity loss. As a result, nature will continue to decline and the next generation will inherit a more depleted, damaged natural environment. Action needs to be stepped up in scale, ambition, pace, and detail.”* (p5)

It continues: “*simply designating areas as protected is not enough. These areas are poorly managed.*” (p6)

The Committee is worried that Marine Protected Areas (MPAs) are not properly monitored and don't have management plans and that nature is not adequately being factored into government decision making. It says damaging changes to biodiversity “*are not being treated with the same urgency and ambition as changes in the planet's climate. This is unacceptable. Measures to counter the collapse in biodiversity must be raised up the political agenda: each Government department must consider the potential impact of its actions on biodiversity, and such considerations must be factored into decision-making across the public and private sector ... To prevent biodiversity collapse becoming a global crisis, action must be taken now.*” (p7)

In the 25 Year Environment Plan the Government announced it would embed the principle of “environmental net gain” in the planning system. The need to include Nationally Significant Infrastructure Projects (NSIPs) under the policy and address other exemptions in the planning system was one of the constant themes which arose during the Environmental Audit Committee's investigations. The Government have announced that the biodiversity net gain policy will be extended so that Nationally Significant Infrastructure Projects will be subject to the net gain requirement. The Government have said that a consultation on the extension of biodiversity net gain to include NSIPs will open later this year. (p64).

In its [response to the Dasgupta Review](#) of the economics of biodiversity, the Government said it will legislate for a framework for setting new legally binding environmental targets and legislate in England through an amendment to the Environment Bill for ‘Biodiversity Net Gain’ for Nationally Significant Infrastructure Projects.

## 5. **Blue Carbon**

The [Severn Estuary Partnership](#) - an independent, estuary-wide non-statutory initiative led by local authorities and statutory agencies and hosted by Cardiff University – highlights the importance of [Seagrass Meadows](#). Over the last century, we have lost up to 92% of our seagrass meadows in the UK and they continue to decline globally at a rate of 7% per year. Yet, seagrass is vital to our oceans. It is the world's only flowering plant capable of living in seawater and an incredible ally in the fight against climate change. Seagrasses can capture carbon up to 35 times faster than tropical rainforests and, even though it covers less than 1% of the seafloor, it globally accounts for 10-18% of total ocean carbon storage. In the UK, seagrass meadows also support biodiversity providing important nursery habitat for important commercial fish species, as well as habitat for two endangered seahorse species, an array of invertebrates, greater and lesser spotted dogfish, grey seals, octopus, and sand eels for example.

[Seagrass restoration projects](#), for example in Pembrokeshire, are being promoted to help to fix carbon in a similar way as tree planting, for climate change mitigation, as well as protect to biodiversity.

We know from EDF's figures that it will take [at least six years](#) before a power station like Hinkley Point C can save enough carbon dioxide emissions to payback the emissions caused during construction. If, in the words of Natasha Bradshaw, Marine Management Organisation appointee to the Devon and Severn Inshore Fisheries and Conservation Authority, removal of the AFD does have much wider impacts up and down the food chain and across the ecosystem of the River Severn, we could see damage to important ecosystems which results in further unexpected releases of carbon dioxide into the atmosphere.

## 6. **Conclusions**

The Government is behind on its targets to protect biodiversity. Environment Secretary, George Eustice, is committed to halting the decline in nature in England, and beginning the restoration of our marine environment, but on current evidence is failing to do so.

The UK Government needs to set an example and play its part in tackling the global biodiversity crisis. If George Eustice approves EDF's application to remove the Acoustic Fish Deterrents, against Environment Agency advice, threatening to wipe out 11 billion fish and decimate stocks in Severn Estuary for 60 years, the UK would once again be, quite rightly, branded as an environmental pariah state which fails to honour its commitments.