



Cheshire
Wildlife Trust



Cumbria
Wildlife Trust



The
Wildlife
Trusts



The Wildlife Trust for
Lancashire
Manchester &
North Merseyside



Ymddiriedolaeth Natur
Gogledd Cymru
North Wales
Wildlife Trust

Response to Mersey Tidal EIA Scoping Report

There follows a response from The North West [of England] Wildlife Trusts (NWWT), encompassing Cumbria Wildlife Trust, The Wildlife Trust for Lancashire, Manchester & North Merseyside, and Cheshire Wildlife Trust. The response is supported by the North Wales Wildlife Trust and the Royal Society of Wildlife Trusts (TWT).

TWT is a movement of 46 independent Wildlife Trusts (including the NWWT) covering the UK, the Isle of Man, and Alderney, together comprising the largest UK voluntary organisation dedicated to conserving all the UK's habitats and species, whether in the countryside, towns or at sea. We improve places for wildlife and strengthen the relationship between people and the natural environment. Our aim is to protect and create resilient ecosystems on land and in the sea.

We are part of a coalition of other eNGOs working on responses to the Mersey Tidal Energy proposal, with concerns on the impacts to wildlife. These include the RSPB, Mersey Gateway Trust, Mersey Estuary Conservation Group, Wirral Wildlife, and Chester Zoo.

SUMMARY

- The Mersey Estuary and its Narrows is a regionally, nationally, and internationally important site for wildlife, which is extremely likely to be negatively, and potentially irreversibly, impacted by a scheme of this nature.
- Consequently, reports, design, and decisions must be informed by in-depth surveys, rigorous data collection, and adherence to the highest ecological standards. It has not been demonstrated that this is currently being achieved.
- No **rationale** has been provided for decisions made to date about rejection of less damaging alternatives, exclusion of ecological surveys, and the scope of the geographical areas being assessed.
- No mitigation and/or compensation measures have been identified. These must be considered from the very beginning to allow upfront consideration of environmental issues to inform the economics and the design of the scheme, if it were to be consented and developed.
- We question whether the scheme would deliver 'clean' energy, given the impacts on absorption of and release of atmospheric carbon consequent on its development: it is

unlikely to deliver 'green' energy, given its likely impact on nature's recovery at national and international levels.

1. The **NEED**

We question whether the need for tidal energy in this specific location outweighs the impacts on the area. The potential contribution to the UK's energy needs is relatively small (the Mersey barrage capacity (estimated 1GW) being about the same as that of a few offshore wind farms, *e.g.* Morgan and Mona will be 1.5GW each, whereas the negative impacts on the Mersey Estuary SPA and Mersey Narrows & North Wirral Foreshore SPA, and their natural capital and ecosystem services - of national and international importance - are potentially huge.

It should be noted – from National Planning Policy Framework, that the bar is set particularly high for projects and proposals like to impact negatively on Special Protection Areas (SPA) and /or Special Areas of Conservation (“habitats sites”):

“The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.”

The ecological and environmental implications of a scheme of this nature are monumental. Any interference with the tides risks the disruption of the delicate balance that creates and maintains these sensitive saltmarsh and mudflat habitats.

These changes would affect the provision of natural capital and ecosystem services of the area, which would impact local communities and the wider region. With fewer wetland habitats in and around the river to absorb and process heavy rainfall, Merseyside and Warrington could sustain more intense river flooding, costing millions of pounds and displacing people from their homes. With disrupted hydrology, water quality will likely worsen due to nutrients and sediment getting trapped behind the barrage instead of being flushed naturally with the tides. These sediment accumulations will also reduce the effectiveness of the barrage over time, likely requiring regular dredging to remove, as seen for international tidal developments.

Furthermore, there appears to be no assessment of carbon impacts in terms of:

- loss of currently sequestered carbon into the atmosphere through permanent inundation of saltmarsh and sandflats
- loss of carbon sequestration opportunity through the same process
- additional carbon emissions generated by production of construction materials, notably concrete.

In fact, the applicant states that there would be *“minimal change to existing habitats and related GHG emissions”* (Table 28-6), and that the impacts of this would be scoped out of the EIA. We expect

evidence to be provided for these statements as we know that the saltmarsh and mudflat habitats in the estuary sequester carbon; it would be released into the atmosphere during construction and will be sequestered less effectively by the loss of the habitats, further contributing to the climate crisis. This statement also implies that the assumption that the scheme will have no effect on the habitats of the estuary is one that will be carried through this project, which we are **extremely concerned** about, and would need to be further investigated and evidenced.

See: https://www.wildlifetrusts.org/sites/default/files/2024-09/2024_Blue%20carbon%2012pp_A4_Landscape_New_Digital.pdf

There are no recent smaller tidal barrage schemes from which lessons might first have been learnt before considering development impacting on such a major component of the UK's and the Northern Hemisphere's natural capital assets.

Internationally, the La Rance tidal energy scheme in Brittany, France has had significant negative impacts on the area's estuarine biodiversity; the Sihwa Lake tidal power scheme in Gyeonggi Province, South Korea was developed to correct severe environmental degradation consequent on ill-considered earlier construction of a tidal wall for agricultural production and flood defence purposes that proved unsuccessful due to severe silting, so is not particularly comparable; and various Bay of Fundy tidal energy scheme proposals in Nova Scotia, Canada, have not been progressed.

2. The **CONSIDERATION OF ALTERNATIVES**

The draft Scoping Opinion does not address alternatives but rather proposes postponement of that consideration to the application stage. This is to defy logic and propose "*sentence before verdict*".

The rationale for proposing such a potentially damaging development on this site of national and international importance for nature's recovery needs to be demonstrated up front, not least in terms of cost-benefit analysis of potential losses to natural capital and ecosystem services and impacts on achieving the UK's targets for nature's recovery expressed in the Environment Act 2021 (by 2030, and by 2042) and in the Convention on Biological Diversity.

3. The **SPECIFIC LOCATION**

The draft Scoping Opinion offers no specific location for the proposed tidal barrage. This makes assessment of potential impacts more complex and uncertain by significantly increasing the number of variables, especially in terms of assessing direct impacts on natural capital consequent on the proposed location of construction. It also makes it difficult to assess whether the data collection proposed is sufficient.

We have a particular interest in that regard in respect of The Wildlife Trust for Lancashire, Manchester & North Merseyside's role as manager of the *Seaforth* coastal and intertidal nature reserve, located near Bootle in Sefton Borough, immediately on the eastern bank of the Mersey

Narrows. Uncertainty over the proposed barrage's location overshadows that trust's long-term options for the site.

4. CUMULATIVE EFFECTS

The northeast Irish Sea is subject to increasing proposed and existing development in Welsh waters and in non-devolved UK waters, particularly offshore wind turbine arrays and associated cabling infrastructure, but also proposals for storage of captured atmospheric carbon in disused offshore hydrocarbon extraction fields. **The cumulative impacts of such industrialisation on natural capital and ecosystem services should be scoped in.** We are particularly concerned over the amount of pressure put on the marine and coastal environment from the cumulative impacts of these developments.

5. The BIODIVERSITY BASELINE

The baseline assessments assume a static natural environment for the Mersey Estuary and its Narrows. The natural environment of the estuary has been in recovery for several decades and are likely to recover further¹. **Any assessment would need to address impacts on predicted opportunity for nature's further recovery**, as well as impacts on the *status quo*; and the predicted local impacts on that of climate breakdown effects that are already "built in" due to global dilatoriness in addressing atmospheric carbon emissions.

6. FISH & SHELLFISH

The rationale for omission of a fish passage in the proposed barrage's structure is weak (2.11.4). Given the uncertainty expressed in the draft Scoping Opinion, on a precautionary basis it would surely be better to scope a fish passage in at this early stage, rather than have to retrofit one later.

The study area overlaps with nursery grounds for commercial species such as sand-eel and herring which are also an important food source for birds, many of which are features of the Liverpool Bay SPA and Mersey Narrows & North Wirral Foreshore SPA. This is concerning and inadequately explored through surveys. Sand-eel surveys should be scoped into the survey programme. Spawning and/or nursery grounds have been defined as a 'low' value in Table 10-4. We would argue that these should be classed as 'medium' value.

7. ORNITHOLOGY

The suite of estuaries in the northeast Irish Sea needs to be considered as one system for waders and wildfowl; and its wider role in bird migration, within the UK and globally, particularly in relation to Ireland & continental Europe, North America, and Asiatic Russia (Siberia).

Nocturnal surveys of feeding behaviour & inter- and intra-estuary movements of wading species populations (notably Dunlin and Redshank) have been scoped out by the applicant, despite Natural England's recommendation that these be considered. However, published evidence suggests that patterns of feeding, roosting, predator-avoidance, and related intra- and inter-estuary movement

¹ [Designated Sites View](#)
[Designated Sites View](#)
[Designated Sites View](#)

are much affected by timing and levels of available daylight and by locality, timing, and levels of artificial lighting².

Construction of the barrage is estimated to take at least 5 years. During this period the dependent, estuarine populations of wildfowl and wading birds would be heavily disturbed, potentially to the point of largely disappearing from the estuary and being forced to compete for reduced resources with bird populations in the neighboring suite of estuaries.

Once in operation, the barrage would likely reduce the tidal range and submerge intertidal habitats that are vital for feeding birds. It would also change the sediment dynamics within the estuary, over time causing the tidal river upstream of the barrage to silt up in some areas and to erode others. The water's salinity is also likely to be impacted, with a knock-on effect on the survival of species that have adapted to the estuary's specific conditions.

8. MITIGATION & COMPENSATION

There are no proposals as to where and how effective mitigation and compensation would be delivered and sustained for the proposed 120-year operation of the tidal barrage. Both would need to be identified and integrated into the design of the development if they are to be effective, with proposals for monitoring and adjustment of management to maintain that effectiveness.

Following the mitigation hierarchy (avoid, mitigate, compensate) is essential and mandatory through this EIA process. It is clear from the applicant's report that significant negative impacts are likely on the Special Protection Areas, and potentially on the Dee Estuary and Sefton Coast Special Areas of Conservation (SACs). That being so and presuming that the proposed development would pass the 'Imperative Reasons of Overriding Public Importance' (IROPI) tests, indefinite compensation would be required. This would be very challenging to identify and deliver for extensive, ecologically functional intertidal and sub-tidal habitats, so an in-principle compensation plan must be progressed as early as possible.

This is particularly the case given the overlap with several designated sites. The Wildlife Trusts nationally have dedicated extensive resource to the exploration of benthic compensation and are part of the Defra led group looking at strategic compensation (Collaboration on Offshore Wind Strategic Compensation). This effort has led to the conclusion that benthic compensation and Measures of Equivalent Environmental Benefit (MEEB) are incredibly difficult to deliver in the marine and estuarine environment, causing unnecessary costs and delays.

² Niall H.K. Burton & Michael J.S. Armitage (2005), Differences in the diurnal and nocturnal use of intertidal feeding grounds by Redshank *Tringa totanus*, *Bird Study*, **52:2**, 120-128, DOI: 10.1080/00063650509461381; Bowland Ecology, Day/night survey to assess disturbance to over-wintering high tide roosts from recreational activities – Morecambe Bay Report, 2024; Zapata, M.J., Sullivan, S.M.P. & Gray, S.M. Artificial Lighting at Night in Estuaries—Implications from Individuals to Ecosystems. *Estuaries and Coasts* **42**, 309–330 (2019). <https://doi.org/10.1007/s12237-018-0479-3> Charlotte N. Underwood, Thomas W. Davies, & Ana M. Queirós, Artificial light at night alters trophic interactions of intertidal invertebrates, *British Ecological Society Journal of Animal Ecology*, first published: 27 April 2017 <https://doi.org/10.1111/1365-2656.12670>

9. BIODIVERSITY NET GAIN

As noted in paragraph 13.9.4, delivery of a minimum of 10% Biodiversity Net Gain – expressed in terms of ‘replaceable’ habitats (irreplaceable habitats, and all species being excluded from the current Defra metric) - is set to become mandatory for national infrastructure projects in November 2024. However, this would need to be additional to the mitigation and/or compensation statutorily required for impacts on irreplaceable habitats, SSSI, SPA, and SAC. As the latter are not yet assessed, located, and presented, it is not possible to separate and quantify these as discrete from the former (see also our 8. above.), leading to uncertainty.

It is stated that the scheme will “meet statutory requirements as a minimum” (13.4.2) in response to questions during the consultation. We would like to highlight that a scheme of this magnitude should be expected to go above and beyond minimum statutory requirements, especially when these are not yet set. A higher percentage should be considered, and the habitat management and monitoring should cover MUCH more than a 30-year period, which is nothing compared to the longevity of the scheme and the timeframe for its potential impacts.

Additionally, Biodiversity Net Gain does not currently cover marine habitats or species, all of which will also need to be considered as part of the scheme.

10. IMPACTS ON COASTAL PROCESSES

Impacts on coastal processes are stated to be currently unknown at this stage (13.1.5). This is an alarming omission, given the potential for impact on the Sefton Coast international Special Area of Conservation (SAC), notified primarily for its coastal dune communities, and the wider impacts to coastal habitats. A project of this scale and potential impacts should adequately understand the impact to marine and coastal processes as there will be changes to the hydrodynamic regime and movement of water and sediment through the estuary. Given the novelty of the use of tidal technology, a detailed construction and operation monitoring plan will be needed together with an adaptive mitigation plan if this project goes forward.

11. MARINE MAMMALS

We do not think the current survey design is effective enough and recommend increasing the number of vantage points in the survey and reinstating acoustic monitoring to gather data on species that may be overlooked during visual vantage point surveys. Although there is currently no regulatory mechanism in place for managing the in-combination underwater noise impacts and the development will not need a Site Integrity Plan, it is vital that the applicant mitigates the noise impacts generated from the project as much as possible. Therefore, we recommend that the use of noise abatement technology is considered. We would expect the developer to include mitigation for barrier effects and collision risk in a Marine Mammal Mitigation Protocol (MMMP).

12. WATER QUALITY

Water quality in the River Mersey has been severely affected by industrialisation in the region. The ecological status is classified as ‘Moderate’ whilst the chemical status is ‘Fail’. The ES should include information on the sediment quality and potential for any effects on water quality through

suspension of contaminated sediments. The ES should consider whether there will be an increase in the pollution risk because of the construction or operation of the development, including the likely increase in sewage concentration.