The Northern Ireland Marine Taskforce (NIMTF) is a coalition of non-government environmental organisations – it includes RSPB, Ulster Wildlife, Wildfowl and Wetlands Trust, WWF Northern Ireland, National Trust, Friends of the Earth, Irish Whale and Dolphin Group, and Northern Ireland Environment Link. The NIMTF has the support of approximately 100,000 local people. We are working towards healthy, productive and resilient seas for Northern Ireland.

Northern Ireland Marine Task Force response to: Office for Environmental Protection (OEP) Call for Evidence: Review of Drivers and Pressures Affecting the UK Marine Environment.
Submitted: 31st January 2024

NIMTF appreciates the opportunity to respond to this call for evidence. In this response we highlight drivers and pressures impacting the UK's marine space. Given NIMTF's remit the majority of this response will reference NI specific examples.

General Comments

- Evidence from the last 50 years shows declines in marine species & habitat abundance with cumulative effects, including climate change, continuing to put a strain on our marine environment. Results of the most comprehensive seabird census in two decades, demonstrates significant declines in almost 50% of all breeding seabird populations in the UK[1]. Since 1970. Global abundance of oceanic sharks and rays has declined by 71%[2]. Further research definitively concludes that at least 44% of the UK's seagrasses have been lost since 1936[3].

- A significant, sustained loss of biodiversity has made NI one of the most nature depleted places on earth, with research by the Natural History Museum and the RSPB showing that NI ranks 12th worst out of 240 regions for biodiversity loss[4] With half of NI biodiversity contained in our seas this highlights the urgency to reversing declines and restore depleted marine habitats and species.

- Good Environmental Status (GES) is set out within the UK Marine Strategy (2012), to reflect the UK's vision for *"clean, healthy, safe, productive and biologically diverse ocean and seas''.* In NI, GES is also a key target and commitment in the draft Environment Strategy. GES is underpinned by 15 descriptors, of which 11 are failing to achieve GES, including benthic habitats, birds, fish and litter[5].

- There are several key drivers and pressures impacting on the marine environment within NI. Threats include but are not limited to the unsustainable use of marine resources, including from the fishing industry, habitat loss from activities such as trawling and dredging, invasive species impacts, pollution and the impacts of climate change. Energy developments are currently not in place in NI outside of trials which take place in Strangford Lough[6,7], but there is a requirement for renewable developments under the Climate Change Act (NI) 2022.

- Transformative action is needed to address the drivers and pressures on the marine environment. Current investment and prioritisation is still far from being commensurate with

the scale and pace of the nature and climate crisis. The Department for Agriculture, Environment and Rural Affairs (DAERA), alongside other government departments with links to developments within the marine environment such as Department for Infrastructure (DfI) and Department for Economy (DfE), need to direct resources and capacity towards marine and wider environmental protection and restoration, following a history of underinvestment. Collaboration and mainstreaming the marine environment across all departments is now essential. Furthermore, NI requires an independent Environmental Protection Agency.

- Although challenges lie ahead, we wish to emphasise restoration projects currently underway in NI, such as Ulster Wildlife's (UW) native oyster restoration programme[8,9,10] and RSPB's LIFE Raft[11] project to tackle invasive non-native species (INNS) on Rathlin Island. Given NI's size, there is real potential to be a world leading example for restoration, by upscaling work that is ongoing and prioritising collaborative, nature-positive, long-term projects which produce results that will restore our seas to a thriving, healthy and well-functioning state.

Response to Consultation Questions

1. **What are the key drivers and pressures affecting the achievement of GES in UK marine waters?**

According to the WFD Report (2021), none of NI's coastal waters are achieving GES due to the persistent presence of a number of pressures[5]. We believe that the key drivers and pressures affecting biodiversity in NI can be categorised under the following headings:

Direct Pressures & Drivers:

1.a. Unsustainable fishing practices. Related GES Descriptors: D1, D3, D4, D6 D8, D10.

In the context of the UK, fisheries have long been recognised as the most widespread pressure on the marine environment[12]. The fishing industry interacts daily with the marine environment and if done so in an unsustainable manner can fuel the deterioration and damage to our marine species, habitats and ecosystems. Continuing to allow unsustainable fishing practices will further prevent the UK from achieving GES. The largest drivers of decline in marine health related to unsustainable fishing practices include habitat loss and disturbance from gear interactions, overfishing of species populations and incidences of bycatch, which is still unreported in many cases.

Habitat loss from gear interactions

Many marine habitats and benthic features are highly sensitive to physical disturbance. Fishing methods that can have the greatest impact include bottom trawling, which can result in direct damage to large areas of seabed, physically removing habitat. If occurring on a regular basis, the habitat will not be able to recover at a sustainable rate, with DAERA's 2020 assessment on commercial fisheries indicating that bottom trawling can have long-term devastating impacts on benthic communities, especially features of Marine Conservation Zones (MCZ)[13,14].

Static gear methods such as potting also have the potential to disturb vulnerable habitat, e.g. crab or lobster potting on temperate rocky reef habitats[15]. NIMTF welcomed new bye-laws introduced in January of 2022, restricting bottom-trawling and introducing management measures in 9 MPAs in NI[16], however efforts are needed to ensure these sites are monitored and measures are well enforced for species recovery.

Scallop dredging is a highly damaging activity to the seabed. Dredging is not banned in all MPA's with sensitive designated features, e.g. the Outer Belfast Lough MCZ has been designated to protect ocean quahog, a slow-growing and vulnerable species. Evidence from sonar scans shows that dredging has occurred at high intensity within the MCZ and is likely to remove a large proportion of the population and/or cause damage to the shells and body[17]. Analysis of fishing effort by the over 12m fleet between 2012 and 2016 indicated that a small proportion of the total dredging effort (less than 1%) was taking place within MPAs. While this is a low proportion of the total fishery, it is a concern as most of the dredging taking place within MPAs is on highly vulnerable rocky reefs[17].

Overfishing of species populations

In the Irish Sea there are a number of commercially exploited stocks which are assessed (by the International Council for Exploration of the Seas) to have biomass below their limit to allow fishing. In particular for cod[18] and whiting[19] in the Irish Sea these stocks have been depleted for many years to unsustainable levels, contributing to Fish (D1) and Commercial Fish (D3) not meeting GES. Whiting fishery remains susceptible to significant bycatch species in demersal trawl fisheries and evidence suggests cod is impacted by poor environmental conditions related to spawning[20]. AFBI provides advice for quota species[21]. Without significant improvements in gear selectivity it is likely these issues will persist and bycatch of whiting will remain to occur at unacceptable levels. Without fully adopting ecosystem based approaches to fishing opportunities there will continue to be inappropriate catch advice relating to environmental variability. Without adopting comprehensive mixed fishery approaches stocks of conservation concern will remain to be unsuitably exploited.

Challenges include the lack of effort limits, effective management and detailed monitoring to provide greater clarity. In NI, data gaps are present around a lack of annual calculations for the state of stocks - assessed by Seafish; with the additional lack of inshore vessel monitoring systems (I-VMS) for vessels under 12m and the lack of mandatory remote electronic monitoring systems (REM). Advice is unavailable for AFBI for non-quota species. There is no formalised assessment for commercial stocks which are exploitable, leading to an under-representation for this area. Additionally, data is limited for blue mussel, periwinkle, relating to potential overharvesting or unknown impacts on associated species and habitats[17]. We are also aware of anecdotal reports of unregulated harvesting of wrasse for the farmed salmon industry around the coast. All these examples highlight the challenge in managing the exploitation of vulnerable species when such activities occur out of sight. Many historical stocks are overexploited and are yet to recover; with challenges remaining for restoring over-exploited fish species and elasmobranchs such as common skate[22].

Bycatch

Many species, such as cetaceans, seabirds and elasmobranchs are at risk of being unintentionally caught in fishing gear as bycatch. In the UK thousands of cetacean deaths are largely caused by out of date fishing gear. Gill nets are used within a smaller area of NI waters and have the highest risk fishing gear to affect harbour porpoises; trawl fisheries in waters adjacent to those of the UK having the highest catch of common dolphin; creels are largely considered to be a relatively environmentally friendly form of fishing but present an entanglement risk, particularly to large whales[23]. Seabirds are highly susceptible to longlines and gill nets. In NI an extreme lack of data under-represents the full understanding of bycatch rates, however, UK wide estimates predict 502 to 1,560 harbour porpoises fall victim to bycatch annually, whilst annual bycatch of guillemot was estimated at between 1,800 to 3,300 individuals mainly in static net fisheries[24].

Benthic bycatch from scallop fisheries is also of concern. Bycatch is recorded during the annual scallop survey by AFBI. In 2021, the main bycatch species were common starfish and edible urchin, followed by queen scallops. Bycatch was between 10% and 68% of the total catch. It is imperative

that we carry out monitoring to fill data gaps for target species, alongside appropriate gear types being used to reduce bycatch rates; and are backed up by robust management and enforcement.

Aquaculture

The aquaculture industry is expanding in NI. When assessing recent marine licensing applications we are witnessing an overlap in coastal areas, either in proximity to or within Special Protected Areas (SPAs) and other MPAs such as Areas of Special Scientific Interest (ASSIs). In Carlingford Lough, an increasing amount of aquaculture is taking place within the Carlingford Lough SPA and proposed SPA area (pSPA)[25].

In Lough Foyle, we have also witnessed enforcement challenges with unlicensed aquaculture trestles being established within close proximity to the SPA. As the industry grows to more large-scale aquaculture sites, greater consideration of management along our coastlines to protect species and habitats and provide space for nature recovery must be considered.

It is vital all above impacts from fisheries are addressed in order to achieve GES in our seas. Benthic habitats, including those most vulnerable to gear interactions are still not achieving GES and form the basis of many marine food webs and are vital to overall healthy functioning of marine life. This is required under the Joint Fisheries Statement (JFS)[26] and the upcoming development of Fisheries Management Plans (FMP), of which NI has 3 in development - Inshore fisheries[27], Irish Sea Pelagic[28] and Irish Sea Demersal[29] ensuring fisheries are sustainable, with an ecosystem-based approach. NIMTF have previously highlighted key recommendations alongside NI Fishermen's Federation (NIFF) about how an ecosystem-based approach could be achieved and will detail further in Q) 3[30].

1.b. Unsustainable development. Related GES Descriptors: D1, D4, D6, D7, D10 D11

The NI marine area is small and is therefore feeling increasing pressure for spatial competition from several activities and industries. Across the UK, exploration for other developments have taken place which did not take nature into consideration, resulting in negative results for local marine species and habitats. To tackle this a spatially prescriptive, user-friendly marine plan must be in place. NI's marine plan is still in draft, having been in development since 2012. With a growing need for development such as offshore renewables to contribute to the needs of meeting the 80% electricity production by 2030 within the Climate Change (Northern Ireland) Act 2022[31], it is imperative that we urgently have a finalised and implemented marine spatial plan that front loads nature and underpins sustainable development across NI.

Ongoing development applications highlight the further need for an NI Marine Plan, e.g. planning applications for gas storage caverns off the Islandmagee region of NI. NIMTF opposed this application on the basis construction would result in detrimental impacts for marine species and habitats in the area, such as harbour porpoise being impacted by noise pollution from development[32]. Additionally, this development overlaps with several MPA's, including Portmuck ASSI, North Channel SAC and East Coast pSPA, meaning developments are progressing in sites designated for nature's protection. Doing so delegitimizes the purpose of the MPA network, to protect and conserve NI priority marine species.

Offshore Wind Development

NIMTF is supportive of the transition to renewable energy to combat the climate crisis. However we wish to acknowledge that we are also facing a nature crisis; where developments at sea must seek to address this, not add to it. To achieve this, a finalised NI Marine Plan must be in place to allow

sustainable development to be planned in conjunction with nature's recovery; alongside nature-positive actions, e.g. appropriate siting and planning for developments to mitigate impacts from future installations.

We appreciate the time constraints now in place to roll out Offshore wind (OFW) developments in NI waters, however there are several drivers of marine declines that can result from OFW developments if planning does not account for nature. To remain within the content limits of the submission guidelines, we limit our response here. We would instead refer you to NIMTF member RSPB's response to this OEP call for evidence and Powering Healthy Seas Report[33].

Other activities occurring as a result of increasingly busy seascape

Anchoring

Similar to gear interactions, repeated contact from vessel anchoring in sensitive areas of the seabed can have an impact through habitat disturbance. Belfast Lough is NI's busiest lough, with a variety of vessels that anchor within; whilst the designated feature, Ocean Quahog, is sensitive to benthic disturbance such as anchoring from recreational and commercial craft. If happening at high rates this may be resulting in damage to a feature the conservation objectives of the MCZ set out to protect[34].

1.c. Pollution. Related GES Descriptors: D1, D4, D5, D8, D9, D10

Pollution is a key pressure which impacts the whole of NI's inshore waters. Below we highlight the varying sources of NI marine pollution that need to be addressed to achieve GES.

Noise pollution

With increasing activities occurring within our marine environment heightened levels of anthropogenic noise pollution is likely. There is limited knowledge on the full impacts for marine species, however many studies have highlighted associated challenges for species that communicate verbally and increased disorientation[35]. A lack of enforcement and understanding of these pressures can result in high-levels of disturbance and injury for species such as cetaceans, e.g. the inappropriate use of fast crafts such as jet skis. For further details on these impacts please refer to NIMTF consultation on fast craft management within MPA's[36].

Plastic pollution

A persistent pressure within the marine environment is marine litter, e.g. plastic pollution. NIMTF member Keep NI Beautiful's (KNIB) 2022 Marine Litter Report states 5,420 items of litter were recorded per km of beaches surveyed, 90% of which was plastic[37]. This includes macro plastic pollution (> 5mm) to microplastics (< 5mm). These plastics can be traced back to variable sources, including industry such as fisheries and the terrestrial environment, highlighting land sea connectivity and the likelihood of land-based anthropogenic pollution influencing our marine environment.

Other

According to the WFD Report, GES has not been met for water pollution sources in NI[5]. This is evident from recent events such as toxic algal blooms in Lough Neagh in Summer 2023. These are catastrophic to biodiversity, with spillover effects within catchments leading to impacts within the marine environment such as the North Antrim coastline[38]. A lack of investment in appropriate

treatment of wastewater has contributed to the issues seen within Lough Neagh[39], alongside additional land-based inputs. Appropriate investment in planning and infrastructure can alleviate issues around the introduction of nutrients and bacteria within estuarine and nearshore environments across NI.

In 2007 a 'Statement of Regulatory Principles and Intent' (SORPI) agreement was created to protect NI Water from public prosecution for inappropriate operational practices and pollution incidents[40]. The Combined Sewer Overflows are commonplace, resulting in bacteria contaminating watercourses and sea, and the unsightly Sewage Related Debris (SRD) found along watercourses after rainfall accumulating in coastal locations. Barriers and challenges such as investment, government policies around infrastructure and the sustainability of sources of pollution entering water bodies need to be addressed[41]. Many issues highlighted have still not been addressed after 16 years. Nature-based solution (NbS) projects such as DfI Living with Water Project[42] (LwWP) provides a plan for wastewater treatment within the Belfast area and can help reduce the impact on MPA features in Belfast Lough. However, it has been shown that levels and distribution of Ecoli in Belfast Lough, a designated shellfish water can be directly linked to domestic sources and WasteWater Treatment Work (WWTW) outflows[43]. The LwWP was updated in 2022[44], complimenting the DfI's overall strategy for reaching sustainable water between 2015 - 2040[45]. However it now needs future, guaranteed funding. With storm intensity set to increase from the climate crisis, there is a risk this pressure will worsen and impact the integrity of Belfast Lough, but also associated protected areas such as Belfast Lough SPA.

1.d. Climate Change. Related GES Descriptors: D1, D2, D4, D5, D6, D7,

The State of Nature Report 2023[46] highlights climate change as one of the biggest impacts on biodiversity, both terrestrial and marine. Recent increases in frequency and intensity of extreme weather events, the rise in the global average sea level and temperature have contributed to widespread impacts on many aspects of marine biodiversity, e.g. species distribution, population dynamics and ecosystem function.

Blue Carbon Habitat Degradation

The marine environment is key to fighting the climate crisis. However, its potential decreases with the ongoing destruction of blue carbon habitats, such as seagrass and saltmarsh, releasing quantities of greenhouse gases into the atmosphere[47]. Restoration of these habitats can potentially sequester large amounts of carbon, reducing emissions significantly, providing a natural way to mitigate climate change[48] through nature-based climate solutions (NbCS). Despite the potential to significantly reduce carbon emissions, NbCS are not being created, monitored or protected in sufficient volumes; with many of these habitats in a degraded condition. Please refer to NIMTF member UW's Feasibility Study on blue carbon restoration for more information[49], showing that within the UK between 84% and 92% of seagrass has been lost since 1940 (Jones and Unsworth, 2016)[50].

Sea level rise

A direct climate change impact that is becoming more apparent is risk from rising sea levels. Using scenarios for Belfast, sea level is expected to rise by between approximately 14 and 19cm by the 2050s[51] with a concern that at least 30% of Ireland's coastal wetlands will be lost given a 1m scenario[52]. Across NI this will have catastrophic impacts, specifically on coastal communities and intertidal species and habitats, e.g. this will result in further degradation of habitats such as seagrass, which rely on photosynthesis, and will require higher light levels from shallow waters. This has the

potential to fuel the climate crisis further, as blue carbon habitats release greenhouse gases and lose the ability to store large quantities of carbon.

Temperature Increases

In recent summers, record temperatures have been seen in local seas, e.g. an increase of 4-5°C above average, adding pressure to already fragile populations[53]. As this occurs, we will continue to witness shifts in species distributions as species migrate to cooler, northerly waters; where this is occurring at a rate of four times more (72km/decade) than terrestrial counterparts (17km/decade); leading to changes in predator/prey interactions, whilst specialist species are outcompeted with generalist species. This can also lead to new predators entering an area previously devoid of said species, e.g. a more viable vector for non-native invasive species[54]; yet the true consequences on wider marine systems are unknown. In the shorter term, intense heat waves are already considered the likely result of increased mortality of seabirds, e.g. large numbers of emaciated, dead and dying auks, particularly Guillemots, being reported along North Sea coasts during the autumns 2021 and 2022[55].

Ocean Acidification

With atmospheric CO_2 exceeding 412_{ppm} in 2021 and projected to increase by 2.4_{ppm} per year over the last decade in particular; ocean acidification will create ever increasing challenges for species which create calcium carbonate-based shells in the marine environment[56]. The integrity of MPA networks; their species and key habitats could be affected through combined changes in temperature and ocean acidification, adding additional cumulative impacts to challenges already faced to meet ecological connectivity and coherence. The risks on the marine environments from climate change are wide ranging, for more detail refer to the CCRA's Evidence Report for NI Summary (2021)[51].

1.e. Invasive species. Related GES Descriptors: D1, D2, D4

INNS are one of the main direct drivers of biodiversity loss at the global level[57]. The Invasive Alien Species Strategy[58] for NI recognises the ecological effects of invasive species are often irreversible once established and can be extremely difficult and costly to control and eradicate.

The pacific oyster is an example of the devastating impact INNS can have ecologically in NI, with anticipated impacts already leading to a ban in Cornwall[59]. It is a species grown commercially in NI through aquaculture and since introduction it has now spread[60] to several loughs and coastal sites. With rising sea temperatures, there is concern that pacific oysters will have an increased likelihood of spawning in line with shifting ocean temperatures, regardless of the stock being set as 'triploid'. Monitoring alone will not be sufficient to tackle this threat. We require an effective management objective to tackle invasive species within the marine environment.

INNS such as rats and ferrets are also a significant threat to species such as seabirds including red listed species like the Atlantic Puffin. The recent seabird census (2024)[61] shows that over half of UK seabird populations are in decline, partly fuelled by the impacts of INNS. The pressure INNS can have on coastal islands is evident on Rathlin Island which has seen declines in seabird species, including the extinction of species. Urgent emphasis and resources are now needed to remove INNS from islands as well as follow up with robust biosecurity measures.

Common cordgrass[62] is a species affecting saltmarsh habitat and eelgrass, specifically on Strangford Lough[63]. Brent geese use eelgrass as a primary food source, often selecting green algal species such as *Enteromorpha spp.* and *U. lactuca* (Mathers and Montgomery, 1977)[64]. Migrations of 80% of the

population of Brent Geese take place annually in Strangford[65] and support tourism in the area though WWT's Big Brent Weekend[66], therefore the dependency on this habitat is key for this species.

Indirect Pressures & Drivers:

1.f. Failure in government policies, strategies, and environmental governance

NI has fallen behind the rest of the UK in meeting statutory requirements through policy and legislation, hindering the ability to achieve GES within local waters. NI was the last to implement devolved climate policy of the rest of the UK nations[67] and a finalised marine plan has been in draft since 2018[68], with NIMTF providing a critique of the current iteration which is not spatially prescriptive, does not take an ecosystem based approach and is not user friendly[69]. Currently NI has no functioning executive or independent environmental protection agency.

All key areas highlighted previously are driven by governance which fails to mitigate the decline in the health of our seas. As evidence, we point to previous NI Executives failure to adequately meet targets within the Biodiversity Strategy for NI (2015-2020) (see Appendix 4), and in doing so failed to deliver the strategy's objective of halting and reversing declines in our natural environment.

There has also been a failure to publish several marine specific strategies including but not limited to:

- MPA Strategy Review
- Blue Carbon Action Plan
- Seabird Conservation Strategy
- Elasmobranch Strategy
- Biodiversity/ Nature Recovery Strategy

Lack of governance at this current time has also halted delivery of key funding sources, such as Maritime and Fisheries Fund (MFF)[70] (2023).

NIMTF member Friends of the Earth (FoE) CEO James Orr recently stated "The only way that environmental standards are maintained is if there are effective watchdogs and enforcement bodies. The difficulty is that those agencies don't exist or have been defunded or deprioritised." These comments are supported further by statements from Viviane Gravey, a politics lecturer and expert on EU environmental policy at Queen's University Belfast (QUB), who has stated "There is all this potential for NI to be more ambitious than Great Britain but for that you need to have civil servants capable of doing the work and an environmental agency that has teeth. The civil service is under so much stress and there are so many gaps. Deadlines are being missed[71]."

Within government departments there is a silo mentality, with environmental responsibility falling entirely under DAERA. Recent improvements with DAERA and DfE collaborating on OFW through the Offshore Renewable Energy Forum (OREF) are evident. Yet, to truly tackle marine environmental pressures and drivers, safeguarding of the environment must be enshrined through each department's remit and priorities, e.g. the Dep. for Health (DfH), Dep. for Communities (DfC) and DfI.

1.g. Failure to protect and maintain designated sites and priority habitats/species.

Protected sites within our MPA network are some of the most vital areas for nature in NI, and their importance for achieving nature recovery is recognised in Government policy. Yet the current reality is that many of these sites are damaged and degraded and are not appropriately managed and protected; so nature continues to decline. In 2018, the Joint Nature Conservation Committee (JNCC) reviewed DAERA's progress on the MPA network in NI, highlighting gaps in species and habitat protection[72]. A recent report commissioned by the RSPB highlighted that for marine birds, 35% of them were in unfavourable conditions and 8% not assessed[73] in the UK MPA network. Within the NI MPA network, a number of features are in unfavourable status including Ocean Quahog (Belfast MCZ), Slender Sea Pen, Burrowing Megafauna and Harbour Seal (Strangford Lough) amongst other features (DAERA, pers. corres.). DAERA's MPA Strategy Review is still in draft and urgently needs to be published to allow work to progress, ensuring the NI MPA network works for nature. Gaps in NI's MPA network strongly indicate the legislative duties and powers for designation, protection, management, monitoring and enforcement of these sites not being effectively implemented. Both strategic priority and resources attached to their delivery have been wholly inadequate in recent years. Management measures and planning should have a higher priority to mitigate pressures coming from industry, yet many designations for NI MPAs have been in place since 2015[74], with finalised management plans not being published by 2023 under the MarPAMM project[75].

Additionally, progress in the SPA review, which NI is awaiting the establishment of SPA designations on the East coast and within Carlingford Lough have been significantly delayed[76]. NI is still awaiting responses from recent consultations on management measures on the use of fast craft and personal watercraft (PWC) in marine protected areas and intertidal hand gathering of shellfish in NI from August 2022[36]. These will be essential to ensure impactful actions to protect designated features in MPA's. The continued delay showcases an alarming concern on the lack of management, engagement and enforcement within NI regarding our MPA network.

1.h. Peoples disconnect with the marine environment

The climate and nature emergencies are evidence of peoples disconnect with nature and the relationship between our society and nature is failing. This is highlighted as a key indirect driver of biodiversity loss in the IPBES global assessment[77] and is exacerbated further within the marine environment, as the species, habitats and values our seas provide to society are often viewed as less accessible and out of sight, and therefore out of mind.

From DAERA's NI Ocean Literacy Report[78], 41% surveyed considered their awareness of the challenges facing the global marine environment to be poor or very poor, however when asked about the marine environment concern was the most commonly reported feeling at 45%. There is therefore great potential to engage further and provide routes to empower the public to protect our seas.

Recent marine activities highlight the impacts when the public are not fully engaged with the vulnerability of nature in the marine environment. Unsustainable tourism activities have resulted in disturbance of vulnerable marine species in sites of high importance for breeding, foraging and resting; e.g. in the summer 2023 NIMTF member RSPB reported to DAERA disturbance to a seabird colony on Rathlin Island due to close proximity of a cruise operator that was in the area. For more on NIMTF's view on sustainable tourism please refer to our response to the DfE's Draft Tourism Strategy[79].

The latest State of Nature report highlights how NI has experienced a significant loss of biodiversity and is now one of the most nature-depleted areas on Earth[46], and this will further influence people's disconnect with nature and the lack of drive for action needed to address biodiversity loss.

1.1) How should drivers and pressures be prioritised? For example, by the scale of impact. What evidence supports any such prioritisation?

There is an urgent need to prioritise marine protection and restoration to tackle the rapid depletion in the health of our seas to reverse GES unfavourable status; yet effort into species and habitat restoration is futile without reducing pressures and drivers resulting in declines in the first place.

The State of Nature Report NI 2023 (SON)[80] focuses on 5 core target areas:

- Improved species status
    - Recovery of ecosystems, species and genetic diversity
- Sustainable production
    - Nature friendly fisheries
- Protected areas
- Ecosystem restoration
- Nature, climate and people
    - Marine Spatial planning
    - Climate change

To address these goals and achieve GES we urgently need policy frameworks and drivers that support the delivery of conservation needs. We would recommend an urgent publication from DAERA of necessary strategies to increase accountability and encourage action from cross-sector and stakeholder support. Building resilience in marine species and habitats requires alleviating immediate pressures, which can be done through these strategies and wider policy pieces specific pressures to the marine environment, e.g. INNS, pollution, unsustainable fisheries actions. Positive examples of swift, collaborative conservation projects highlight the benefits of taking immediate action on threats we know to be impacting vulnerable species, e.g. INNS. This is shown in collaborative projects such as on Lundy Island where an eradication project in a partnership with RSPB, Natural England, the Landmark Trust and the National Trust (NT) between 2002 and 2004 resulted in the restoration of over 30,000 seabirds[81].

Beyond immediate, focused conservation actions, we need to make space for marine recovery of species and habitats. This will require UK wide marine spatial planning that prioritises nature and will account for the sustainable location of fisheries, which have long been recognised as one of the most widespread pressures on the marine environment, providing space for nature in MPA's and beyond. However to ensure any of the above are viable they will require robust governance, ambitious policies and adequate resourcing that will support ambitious results for nature.

We appreciate the need to gather data that focuses effort and assists our understanding of the marine environment, however this needs to be practical, focused conservation efforts resulting in marine restoration that occurs alongside data collection and research. We are in a nature crisis, and need to act urgently, applying prior knowledge when possible to halt species and habitat declines before they fall steeply beyond viable restoration rates. Considering the above, we have attached prioristed recommended actions to address the drivers and pressures in the documents submitted alongside this response.

1.2) Over what period (short <5yrs, medium 5-15yrs, long term 15+yrs) and spatial area do these pressures and drivers have their effect?

Several pressures and drivers happen across a range of timescales and geographical areas, with many having long-lasting detrimental impacts through habitat and biodiversity loss if allowed to continue. It is important to note that cumulative impacts are not wholly accounted for in the wording of this question, nor recognised in existing and proposed frameworks to manage the marine environment in the UK. Cumulative impacts contribute to lower ecosystem resilience and their ability to recover.

It is important that the responses to this question are not used to only prioritise "quick wins" '(short <5 years)' and avoid action that will achieve long-term gains. Marine ecosystems are complex and fragile, often taking many years to develop and therefore falling within the category of "long term +15 years" for this question. Species such as elasmobranchs have biological characteristics making them highly vulnerable to any pressure, e.g., long-lived, slow to mature and have a low reproductive rate; so while pressures may impact the species within a short period, recovery can take a long time.

Considering the above, we have attached a table which seeks to summarise the temporal and spatial effect of key marine pressures and drivers in the documents submitted alongside this response.

1.3) How many of these drivers and pressures are transboundary?

NI is in a unique position among UK countries, sharing a border with an EU Member State, the Republic of Ireland (RoI). The island of Ireland is a single biogeographic unit, and a single unit for plant and animal health; requiring policy alignment and active cooperation between both sides. Given that environmental issues do not respect borders, all of the above drivers and pressures can impact beyond a countries border.

To halt the decline in nature and promote marine recovery along and across and within borders, greater levels of engagement between Ireland and NI are necessary. Annually, an array of marine species found in RoI waters migrate into NI waters and vice versa, e.g. Basking Shark (*Cetorhinus maximus*), which migrates northward through ROI waters into NI waters annually between May and August[82]; commercially important species such as Atlantic mackerel (*Scomber scombrus*) also migrate during the summer months from RoI waters, north to feed, then migrate south overwinter to spawning grounds in the Celtic Sea[83]. Management efforts for migratory species in RoI and NI waters therefore impact species ability to thrive throughout the waters around the island of Ireland.

Cross-border cooperation is a strong imperative for effective governance and management of protected sites, and too much divergence of approaches could compromise operational effectiveness. Two cross-border sites of particular importance are Carlingford Lough and Lough Foyle, which have had historical difficulties with management due to differing governance structures and enforcement challenges in the region; yet without aligning targets for species protection and recovery in cross border MPA's, it is unexpected that conservation objectives set for marine biodiversity will be fully met. With DAERA currently developing a MPA strategy review, and the RoI on the verge of publishing its MPA Bill there is a real opportunity to co-ordinate objectives, targets and actions for marine biodiversity throughout Irish waters.

Good coordination across the countries of the UK; and between the UK and the RoI, will be essential to effectively reach GES. It is understood each nation will have differing needs and priorities, e.g. bycatch from long lines and gillnets being more common in southern England than NI, however, significant divergence in some approaches, e.g. on monitoring and indicators, has the potential to create unnecessary complexity and potential difficulties for reporting the UK contribution to global

targets and GES. A standardisation in this area is necessary to support conservation successes; and a greater need for collaboration not only across the UK, but also within RoI will also be pivotal to future management in the increasingly busy Irish Sea. A growing interest in activities in this region has been reviewed by the Irish Sea Network in 2022[84].

2. What actions are needed to deliver GES in UK marine waters?

Direct:

2.a. Unsustainable Fisheries

The framework within the UK Fisheries Act (2020) is positive, but without a legally binding duty on fisheries administrations to achieve the Fisheries Objectives within a specific timeframe. The Act and associated frameworks such as the JFS and FMPs have yet to deliver the policies and measures required to tackle pressures from fishing activity. To ensure both the success of future fisheries and to protect fish populations as well as the wider environment, fisheries in NI and the wider UK must be truly sustainable. An ecosystem-based approach to fisheries management must be applied whereby healthy ecosystem level components and processes are recognised as vital for good fish population management, being used to inform decision making.

To aid this, all fishing activity must be fully documented, monitored and integrated with other marine planning and conservation measures at sea. In NI, this will require the roll out of I-VMS on all vessels under 12m; and the introduction of REM for all vessels as key monitoring and enforcement tools. This creates transparency and sustainability of fishing activity, including addressing evidence gaps for bycatch; e.g. seabird species are currently noted down within the comments by Fisheries Observers, which will be changing to a specific category moving forward in assessments; the interaction between Herring and Zooplankton as a food web; and the number of interactions between seabirds and fishing vessels as this has not been recorded (AFBI, pers. corres.).

It is incredibly disappointing that action to tackle sensitive species bycatch continues to be delayed. To further tackle bycatch levels it is crucial that DAERA implementats bycatch mitigation management plans across the NI fishing fleet. The UK Bycatch Mitigation Initiative requires significant improvements in terms of detail, ambition, and delivery. This initiative now needs to detail mitigation measures to reduce bycatch that need to be implemented urgently, with robust independent monitoring and binding timelines to ensure actions are timely and effective. All FMPs (current and in draft) must have an ecosystem-based approach to management, in agreement with the latest scientific advice. These management plans must also be actionable, with SMART targets and adequate resourcing to ensure implementation.

We must ensure existing sites for prey species and essential habitats for spawning and juveniles are effectively protected, introducing additional sites where needed to the NI MPA network. For species such as sandeel, this work can be supported via AFBI's recent report on sandeel habitat suitability in NI[85]. NI must have effective legislation and implementation procedures in place, enabling sustainable and climate friendly fishing to address fisheries interactions with blue carbon habitats.

To guarantee success it is vital industry embraces sustainability and is supported in doing so. This will rely on engagement and collaboration with industry across all sectors, alongside environmental NGO's (eNGOs) and representatives; ensuring fishers are gaining a sense of ownership over marine environmental health. NIMTF and NIFF have fostered a transparent working relationship to discuss routes for increased sustainability within industry. 'Co-Fish'[86] is one such successful partnership, resulting in fisheries management measures being implemented within MPA's; without which these

steps would be made more challenging. Additional examples of fishery and eNGO collaboration producing co-benefits include Lyme Bay (South coast England)[87] and Arran (West coast Scotland)[88].

To achieve GES, fisheries will also require funding and resourcing with a targeted sustainable focus. To initially support this we require immediate funding through the MFF[70], which is currently delayed due to a lack of executive. To ensure sustainable practices are sustained long-term, industry requires secure, prolonged sources of funding to upskill and see real results. NIMTF provided further information on highlighted gaps to be addressed through the MFF response: https://nimtf.files.wordpress.com/2023/02/nimtf-response-strategy-for-future-marine-and-fisheries-support-2023-2028.pdf

2.b. Unsustainable Development

Strategic and fit for purpose marine planning and licensing which puts the environment at the forefront of decision making, is the key to meeting GES and the successful recovery of our marine environment. Marine spatial planning should give activities and policies which prevent the achievement of healthy seas a lower priority, and similar to fisheries, apply an ecosystem based rather than a sectoral based approach to management and activities. To support this NI needs the immediate publication of a Marine Plan, as laid out in the Marine Bill (2013)[89]. It has been over 10 years since this bill was passed and NI is still without a complete NI Marine Plan which must be spatially prescriptive and implement the ecosystem based approach to decision making; ensuring all development in NI is set within environmental limits and positively integrated into other frameworks and strategies e.g. Marine Strategy and wider MPA network conservation objectives.

Adverse impacts of OFW and other developments in the marine environment must be limited with strict regulation on noise and location. This requires robust monitoring and enforcement. The establishment of OREF in NI is welcomed, yet continued in-depth future stakeholder collaboration is necessary. For more detail on what is needed for nature-based offshore wind please refer to NIMTF members RSPB's response to this call for evidence and RSPB's Powering Healthy Seas Report[33].

2.c. Pollution

Many of the pollution sources highlighted in Q1 are terrestrial based; with increased engagement with stakeholders on land and a less siloed mentality across the terrestrial and marine sectors is crucial to curbing high pollution rates in our oceans. This will involve strengthening enforcement and engagement in aspects relating to noise and plastic pollution, alongside the continued focus of research into the impacts of these various sources of pollution on wider marine habitats and species e.g. effects of varying and persistent levels of anthropogenic noise pollution. Increased resourcing to monitoring outflows and **inadequate** waste systems across the NI region will be necessary; e.g. as referenced in Q1, there is an urgent need to fund the Living with Water scheme to address increased sewage and associated sewage debris in sites such as Belfast Lough.

2.d. Climate Change

The Climate Change Act (NI) 2022 rightly reflects the fact that there is now unanimous global recognition that the nature and climate crisis are inextricably linked and must be tackled together. This policy references the need to 'support nature based projects that enhance biodiversity, protect and restore ecosystems, and seek to reduce, or increase the removal of, greenhouse gas emissions or support climate resilience', but does not explicitly make reference to the marine environment.

Inside and outside of MPAs, crucial blue carbon habitats and species will help act as NbS by drawing down carbon, whilst also providing tangible benefits to biodiversity and acting as a natural defence against increased storminess. A long-term programme of restoration must be put in place in NI to increase blue carbon habitats around NI, including seagrass meadows, maerl and saltmarsh. This will be supported by the immediate consultation release of DAERA's co-designed Blue Carbon Action Plan, the first Blue Carbon Action Plan amongst the devolved nations. It is also vital, through NI's MPA strategy review, that DAERA develop recommendations for the establishment of climate smart management of MPAs, which preserve natural blue carbon ecosystem functions and processes. For more details on the immediate actions needed to restore blue carbon habitats in NI please refer to NIMTF members UW's Blue Carbon feasibility report[49].

Additionally, NIMTF would advocate for improved integration of climate and nature policy that prioritise Nbs throughout the marine management to reap benefits for both nature and climate; e.g. before defaulting to technological or hard infrastructure solutions, NbS should be prioritised to provide cost-effective results for nature and climate change adaptation, e.g. exploring saltmarsh restoration as a soft engineering approach to coastal erosion.

2.e. INNS

It is challenging to manage INNS in the marine environment, as once present they spread at a rapid rate and can be difficult to remove. Biosecurity measures and the identification of management measures for INNS likely to cause the greatest disturbance to priority species should be prioritised; e.g. pacific oyster, currently used in aquaculture in NI, is outcompeting the native oyster, an NI priority species. Given rising sea temperatures, there is increasing concern that pacific oysters will have an increased likelihood of spawning in line with shifting ocean temperatures, regardless of the stock being set as 'triploid'[90,91]. Monitoring and effective management objectives are needed to tackle the pacific oyster within the NI marine environment.

Managing INNS on the NI's coastal islands is still a challenge, however the terrestrial element to these sites means there have been previous successful INNS eradications in the UK. On the Island of Lundy, an eradication programme in partnership with RSPB, Natural England, the Landmark Trust and NT between 2002 and 2004, has resulted in a massive positive response from the seabirds, with numbers of all the key target species increasing dramatically[81]. In NI, the LIFE Raft project which is led by RSPB in partnership with the Rathlin community, Causeway Coast and Glens Heritage Trust and DAERA, on Rathlin Island is hoping to achieve similar results by removing invasive non-native rats and ferrets[11]. Similar projects need to be funded and supported in NI. Now need to see greater ambition in setting measures for island biosecurity to ensure these conservation actions are successful long term; alongside a commitment from DAERA to the strategic development and resourcing of an NI seabird island biosecurity programme, and the implementation of a programme of quarantine measures against invasive, non-indigenous mammals from island seabird colonies to increase confidence in meeting the GES target for Seabirds.

Indirect:

2.f. Governance

To ensure direct pressures and drivers are addressed, DAERA must publish several environmental strategies recognising and addressing all drivers and pressures referred to in this response, by the end of 2024. This will include:

- A Biodiversity/ Nature Recovery Strategy

- MPA Strategy Review
- Blue Carbon Action Plan
- Seabird Conservation Strategy
- Elasmobranch Strategy
- Environment Strategy outlining NI's first Environmental Improvement Plan (EIP)

These strategies will be essential for ensuring marine species and habitats in Northern Ireland are conserved or restored, maintaining healthy, thriving functioning marine ecosystems and that the ecosystem services that they provide are acknowledged and appreciated. Such strategic frameworks must be underpinned by legally binding SMART targets and be supported by firm commitment to funding to address significant declines in species and habitats, whilst acknowledging existing and emerging pressures. Failure to publish these strategies delays the transformative action needed to meet the urgency and demand of the nature and climate emergency.

As reflected throughout this response, funding is vital to put needs into action. The NI environmental budget is reported to have fallen by approximately 20% since 2009/10[92] and within NI overall there is an estimated £1 billion financing gap for protecting and/or restoring biodiversity[93]. Focused budget towards nature in supporting, monitoring and increasing practical restoration work, resourcing and capacity is now essential. There is an urgent need to focus on longer-term sustained funding to allow upskilling and maintain capacity in NI and it is clear that public funding alone will not be sufficient to tackle the biodiversity crisis. DAERA should commit to the following on private sector finance:

- Undertake a review into unlocking private financing for nature in NI.
- Develop a framework and set of standards for enabling private sector flows of money through high integrity environmental markets, that acknowledges and addresses the risk of potential greenwashing from private organisations.
- Establish an investment readiness fund to enable the identification of a suite of potential nature-based projects and undertake further project development to create investable propositions.

We must break down the silo mentality within government, mainstreaming the marine environment across all government departments. Aspects of marine environmental health and prosperity are both impacted by and support the work of wider departments, such as DfH, DfC and DfE. Therefore the marine environment needs to be platformed and threaded throughout the remit of all such governmental departments. We would reiterate the additional governance and ownership challenges that come with managing our coastlines. Coastal management responsibilities must be clearly recognised and acted upon within relevant terrestrial specific and marine specific strategies and policies going forward.

In Q1.c. we discussed the need for more NI-RoI collaboration. To achieve success NIMTF would advocate for the establishment of a North-South marine biodiversity forum that provides a platform for transboundary communication, knowledge sharing and the development of complementary management efforts for marine species and habitats. Several aspects of the above strategies could be supported through this forum, ensuring higher levels of ecosystem protection and recovery.

2.g. Protected sites

Protected sites across NI are in poor condition; suffering from inadequate management, monitoring and reporting, and oversight, with additional sites of national and international importance remaining undesignated (e.g. East Coast and Carlingford Lough marine SPA). We must be ambitious in achieving 30x30 geographically, but also to urgently prioritise quality alongside quantity and protect species and habitats in NI's MPA network alongside additional actions that achieve feature

restoration. It is vital that DAERA take a 'whole site approach' to protection, as opposed to the current "feature based approach" to address gaps in wider ecosystem functioning. Designated species and habitats will benefit from an ecologically coherent network of MPAs in NI, as outlined by OSPAR[94]. Current gaps in the MPA network now need to be filled. We welcome the progress made in the designation of MCZs for the inshore region, however, we remain concerned that ecological coherence has not been fully met. Further designation is required including a second tranche of MCZs, alongside the designation of the proposed East Coast (NI) and Carlingford Lough SPAs.

Further designations must also be considered to complete the network, including the protection of NbS features which contribute to carbon capture, and prey species that support seabird populations such as sand eel and nursery fish habitat. With the climatic shifts resulting in increasing temperature and ocean acidification, we need to ensure that our MPA network is climate resilient to cope with the wide range of environmental changes we will witness as a result of climate change.

To ensure any of the above is successful, proper implementation and enforcement is essential within our MPAs. Simply producing a management plan, or a suite of management plans, does not automatically mean GES has been achieved; management plans must be shown to be effective in meeting the conservation objectives of the sites they are intended to support, and enforcement mechanisms must be in place to secure compliance with those regulations where required. Only sustainable levels of activities and development impacting on our seas must be allowed within MPA's, guaranteeing all marine wildlife and natural ecosystems can survive and thrive in NI waters. When identifying new designations, DAERA must also consider the role HPMA's will play in NI waters. The Benyon Report[95] states that HPMA's crucial role in ocean recovery, so they're application will be a key part of achieving GES in NI waters. These actions are essential to ensure the MPA network works for nature, only then will GES be achieved for our wider seas and indicators.

2.h. Engage people with nature

It is crucial that we engage the public more in the benefits of a healthy marine environment, including the intrinsic value of our sea. We are reminded of a Sir David Attenborough quote, "*No one will protect what they don't care about; and no one will care about what they have never experienced*".

Firstly it is key to increase access to the marine environment for all. Increasing access also means increasing our understanding of the threats to our seas, alongside the ecosystem services the marine environment provides. This will mean translating scientific and policy jargon to a more widely accessible language that will aid the public in feeling empowered to raise their voices in support of actions that safeguard our seas. This could be channelled through an increased NI specific marine focus on the NI curriculum. There is also a real potential to ignite a passion for our seas amongst members of the public by providing interactive, readily accessible opportunities and resources that facilitate knowledge building and support marine conservation. NIMTF would strongly encourage more resources to build sustained citizen science projects, providing an opportunity to teach participants more about NI's coastline and the marine species and habitats that inhabit our local seas. The role of citizen science in developing governmental policy has been highlighted[96] and shows that programmes and projects can be an exceptional tool in gaining an understanding and comprehension of our local biodiversity, whilst also encouraging members of the public to get involved and build connections with the sea.

Citizen science projects that have taken place across NI historically include Shore NI[97] and Sea Deep[98] which focused on increasing the public's understanding of rocky shore assemblages and NI elasmobranchs. Examples of successful ongoing UK & Irish citizen science projects include NIMTF members Marine Conservation Society (MCS) Seasearch[99] and Beach Cleans[100]; KNIB's Adopt a Spot[101]

and marine mammal surveys through Irish Whale and Dolphin Group (IWDG)[102]. All these projects have the ability to break down barriers for the community in accessing information and upskilling in recording skills whilst contributing to marine recovery. By building on existing citizen science projects in NI, we can address evidence gaps and current capacity issues, supporting wider conservation needs alongside improving education of the wider public on marine issues.

For more on NIMTF's position on public access to the marine environment, please refer to our recent response to the DfE Draft Tourism Strategy: https://nimtf.files.wordpress.com/2024/01/draft-tourism-strategy-for-northern-ireland-10-year-plan_nimtf-response.pdf.

2.1) What are the trade-offs that need to be taken into consideration, or opportunity for synergistic actions, and how long would it take to deliver them?

Our oceans are one well connected, functioning ecosystem. Any pressures on one aspect of our marine environment will likely have a secondary effect and possibly fuel others pressures and drivers. It is likely that trade-off will be discussed increasingly more in relation to offshore renewable site selection. Depending on site selection there is a risk this may result in other pressures, such as fisheries, relocating or increasing activities in sites of particular importance to nature, such as MPA's. This reiterates the importance of spatially prescriptive marine spatial planning in NI seas, to guarantee nature's priority and ability to thrive going forward.

Connectivity between land and sea, and the opportunity for collaboration between terrestrial and marine stakeholders needs to be recognised. For example, recent toxic algal blooms in Lough Neagh are a danger to wildlife, communities and the economy associated with the lough[38], but also impact our marine environment and therefore coastal terrestrial habitats. This summer the blue green algae in the lough moved downstream out of the lough through the River Bann, reaching the north coast[39] resulting in the closure of beaches as a result, and having a knock-on impact on marine species as well as fisheries in the region.

These examples highlight the complexity of our marine environment and the activities that are dependent on it, however, when discussing trade-offs, the integrity and health of our seas is not something that can be undervalued. It is of the utmost importance that our seas are in a thriving condition, not just for species and habitats that occupy them, but for all the activities mentioned above, including fisheries and development, to presume. Therefore nature cannot be seen as something that can be a trade-off, rather its health must be at the heart of all activities occurring at sea.

3. What are the barriers and opportunities to addressing pressures and drivers through these actions? What pressures will not be or only partially addressed through these actions?

Barriers:

3.a. Environmental Governance

Extensive regulatory dysfunction, and unacceptable levels of disregard and non-compliance of environmental law, or a lack of environmental law, have resulted in substantial degradation of NI's marine environment, and significant social and economic costs[103].

Environmental governance in NI has been historically weak, particularly as it is the only part of the UK that does not have a separate and independent Environmental Protection Agency (EPA). A well-funded independent EPA must be established to complete a governance system that will provide effective oversight and enforcement of environmental law and protect civil society's access to environmental justice. Furthermore, reduced capacity in departments to address marine biodiversity has resulted in the ongoing delay in strategies reaching public consultation.

3.b. Political Instability

The Northern Ireland Executive collapsed in February 2022. Without a functioning Assembly or Executive in place, the NI (Executive Formation) Act 2022[104] provided increased powers for senior officials to act in the public interest in the interim. This has led to stagnation in decision making which can clearly be seen in departmental response to the nature and climate emergencies. For example, DAERA have pointed to the absence of ministers and an executive, as well as capacity and budgetary constraints[105] as the reasons for not proceeding with the publishing of environmental strategies such as the MPA strategy review and the opening of funding such as MFF. This absence of decision-making by politicians impacts now and into the future with a lack of action to deal with NI's longer term policy challenges[106].

3.c. Financing

We have highlighted throughout this response the limitation to tackle drivers and pressures without substantial and sustained funding. Politically, there are uncertainties surrounding various promises and long-term public funding commitments towards nature recovery. With delays in necessary funding such as MFF and the Living with Water scheme, it undermines opportunities for conservation effort and collaboration. For example, MFF is planned to be available from 2023 - 2028 and we are currently already in 2024[70].

It is evident from our relationship with industry through NIFF that actions such as roll out of I-VMS to increase monitoring effort throughout the fleet is partially limited due to industry concerns over lack of financial support. Furthermore, it was made evident through fisheries sectoral climate workshops that substantial funding will be necessary to transition the fleet to net zero.

In general, the ongoing trend of short (on average 4 year funding pots) for conservation based projects limits marine restoration potential. Eliminating the drivers and pressures in the marine environment, whilst restoring depleted habitat and populations takes substantial time and targeted effort. Examples of historic projects, such as UW's Sea Deep project which aimed to conserve local elasmobranchs, began to make progress through the fostering of relationships with relevant communities and filling evidence gaps only to be halted due to funding restrictions. Although beneficial, the work and effort of projects such as Sea Deep and others like it therefore do not reach their full potential.

Furthermore, limited access to funding further decreases skills retention in the conservation sector in NI, with individuals with knowledge and established relationships having to find employment elsewhere when smaller projects reach the end of their funding round.

3.d. Science and monitoring

It is essential that suitable baseline annual surveys are put in place for marine biodiversity in NI to enable us to monitor population trends for species and habitats like that achieved across the rest of

the UK. This will determine which species and habitats are of conservation concern, where efforts should be focussed; will track progress on conservation action and help ensure that common species remain common.

Science is needed to better understand the ecology of species in NI, diagnose the causes of decline and inform conservation action, ensuring that resources are being used efficiently and effectively. An effective science and monitoring strategy must form the foundation of all environmental strategies, for example, the Biodiversity Strategy and Blue Carbon Action Plan. We have listed some evidence gaps that urgently need to be addressed in Q) 4.

Until we have a greater understanding of the impacts of certain pressures and drivers on the marine environment , NIMTF advise the Precautionary Principle[107] be applied. This will be especially relevant regarding increasing offshore wind developments in NI regarding NI specific data lacking on migratory marine species and their interactions with installations across the whole OFW process (installation, operation and decommissioning).

Opportunities:

We have touched on multiple opportunities throughout this response, however we have reiterated some key opportunities below:

3.e. Current restoration successes

Restoration and key conservation projects are already being delivered in NI. For example, the LIFE Raft project which is led by RSPB in partnership with the Rathlin community, Causeway Coast and Glens Heritage Trust and DAERA, is currently underway and is removing invasive non-native rats and ferrets to benefit the islands priority seabird species. Work is underway via UW to support the natural recovery of the native oyster, by installing several native oyster nurseries throughout NI. These projects showcase the potential to not only achieve for nature, but improve nature-based solutions in NI. Focus must now shift to being ambitious and scaling-up these and similar styled projects. For this good governance and funding will be vital. However, we would reiterate the need to alleviate pressure, alongside conservation actions to truly see achievements in marine biodiversity.

3.f. Engagement

As discussed previously, there is a real opportunity to engage the public in the marine environment. Ocean literacy across all sectors and the importance of ensuring accessibility to information that will inform awareness of the issues impacting the marine environment need to be profiled further. Additionally, by ensuring awards such as KNIB's 'Blue Flag Award' are intrinsically linked to GES, we can highlight where we are achieving favourable status and where additional efforts need to be directed to[108]. This will generate opportunities that can be linked to coastal management plans, to tackle challenges relating to coastal change. Combining existing citizen science projects along the coastline that support the achievement of the Blue Flag Award has the potential to put a focus on citizen science projects that engage with members of the public, with ideas and programmes already available in NI, such as KNIB's 'Tackling Plastic'[109] programmes to coincide with their pre-existing marine litter surveys.

There is a real opportunity for greater engagement across the UK's four nations and the RoI. We would refer you to a report by Northern Ireland Environment Link (NIEL)[110] highlights the challenges and barriers in transboundary working, but also highlights the opportunities.

5. Where are the gaps in the available data and evidence that need to be filled to ensure achievement of GES can be monitored and actions are effectively identified, and implemented?

a) **What evidence is available to identify those gaps?**
b) **What aspects of existing monitoring programmes undertaken by the UK administrations are working well to fill those gaps, and what aspects could be improved**

Below list of some, but not all knowledge gaps that need dedicated focus:

- True condition of the MPA network, including a sufficiency review.
- Fisheries: bycatch rates,interactions of vessels with species such as seabirds, unregulated fishing activities.
- The impact of large scale development on priority species & habitats in NI.
- Greater insights into key sites and usage of NI seas by mobile species including seabirds, elasmobranchs and less well studied fish populations.
- Genetic diversity of many priority species in NI, such as Native Oyster populations.
- Accurate understanding of blue carbon storage quantities in NI.

NI's Marine and Natural Capital Project (MANACA)[111] gives an indication as to the natural capital value of blue carbon habitats, however the limitations of this project were the assumptions that were made. More data around the quality of blue carbon habitats need to guide data collection in order to make the values of NI's marine natural capital more accurate, precise and robust. An upcoming joint report by TWT, RSPB and WWF (In development) in relation to blue carbon habitats and the ecosystem services they provide for the Irish region.

There is also a need for increased exploration into how to better use social science to tackle the main drivers and pressures within the marine environment, as so many impacts stem from a lack of engagement and understanding of the consequences upon the marine environment from various sectors.

We also wish to reiterate that while there is a need to gather more data to gain a greater understanding of our marine environment, that we are in a nature crisis at this moment in time, and we need to act urgently to reverse current declines and alleviate pressures. We therefore must see greater drive from DAERA and all relevant sectors to seek ambitious solutions to restore nature, alongside the gathering of more data to halt any further delays in addressing nature's decline.
We are happy to have further discussions on the above data gaps, or any aspects of this response with the OEP at a later stage.

In addition to the attached response, NIMTF has contributed to the joint Environment Link UK (ELUK) response, and NIMTF members RSPB's response. As such we would draw your attention to both these responses.

For further information, please contact Robert Walsh, NIMTF Officer on robert.walsh@nimtf.org.

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