Written Evidence submitted by The Hebridean Whale and Dolphin Trust (MM0008)

The Hebridean Whale and Dolphin Trust is a charity founded in 1994, based in Tobermory, Isle of Mull. Our goal is to increase the knowledge and understanding of Scotland's whales, dolphins and porpoises (cetaceans) as a basis for the lasting conservation of local species and habitats. HWDT conducts long-term monitoring of marine mammals in Hebridean waters with the help of trained members of the public. Our data and expertise has been used to inform government policies including the establishment of Marine Protected Areas. By partnering with academic scientists we helped to highlight and quantify various threats to marine mammals in Scottish waters including entanglement (bycatch in creel/pot fisheries) and acoustic pollution (e.g. acoustic deterrent devices in aquaculture). Our response draws from decades of experience and research in our study area, but also from our Scientific Committee which is composed of UK-based scientists that work in marine mammal research and conservation internationally.

1. What is the status of marine mammal populations?

A 2013 study indicated that while some marine mammal populations globally were recovering (42%), the majority were either not recovering (28%), unknown (20%) or in decline (10%) (Magira et al., 2013). Several populations of great whales (e.g. humpback whales) are recovering from the effects of over-exploitation, thanks to the moratorium on whaling (Baines et al., 2021; Stevick et al., 2013). However, such recoveries are not apparent in UK waters perhaps because whaling has effectively been replaced by incidental killing or habitat degradation. Ongoing research into historic whaling catch-locations indicate that the shallow shelf seas around Scotland once supported populations of humpback, northern right, sei, fin, and blue whales. However, the occurrence of some of these species in the region today remains in doubt or at least poorly known (Ryan et al., In Review).

The status of marine mammal populations in UK waters is known only for species which commonly occur around coastal areas (namely harbour porpoise, bottlenose dolphin, minke whale), given the challenges of long-term monitoring for highly mobile species in offshore waters. The 2013-2018 assessment of cetacean conservation status for UK waters for the EU Habitats Directive found that all cetacean species (Annexes II, IV and V of the Directive) were listed as ‘unknown’ (JNCC, 2019). As such, it is not possible to know whether populations are stable, in decline, or increasing. The main method for estimating abundance and hence population status for cetaceans is by ship-based transect surveys. Large-scale synoptic surveys (SCANS) have been carried out once per decade but need to be more regular to detect population trends, and deduce the possible underlying drivers of any trends observed.

2. How, and for what purpose, are marine mammals being killed?

To our knowledge, the intentional killing of marine mammals was brought to an end in the UK when the ban on shooting seals was introduced in February 2021 (Marine (Scotland) Act 2010: Part 6). While commercial whaling in UK waters ended in 1951, whaling continued in adjacent waters (Iceland, Spain, Norway) until the 1986 moratorium. Since the moratorium, minke and fin whales have been hunted adjacent to the UK EEZ by Norway (minke), Iceland

(fin, minke and sei) and Faroes (pilot whale, white-sided dolphin & Risso's dolphin). It is likely that many of the populations affected also occur in UK waters.

The purpose of marine mammal killing in neighbouring nations is for indigenous and commercial uses. Notably, the consultation preamble here omits to mention Faroes. Furthermore, the end of Icelandic whaling by 2024 is not as a result of a legal ban, rather the decision of the current Icelandic government not to renew licences for the time being.

3. Beyond whaling, what human behaviours are affecting whale populations and how?

Ongoing research by HWDT and the Scottish Entanglement Alliance is demonstrating that entanglement in shellfish creels/pots is leading to a worryingly high mortality of minke and humpback whales. This threat may be going unnoticed by fishers who might attribute gear loss to weather, gear-conflict or vessel-interaction when their creels go missing. Aside from the waste and cost to the fishing industry, minke whale entanglement mortality may be such that local populations are depleting (Leaper et al., In Review). Given that UK waters appear to host a mix of recovering western (Stevick et al., 2013) and endangered eastern (Berrow et al., 2021; Wenzel et al., 2020) humpback whales, the relatively high rate of entanglement of this species in Scottish waters (Ryan et al., 2016) is a conservation concern given the uncertain viability of the precariously small eastern population (Palsboll et al., 2017).

Historical and illegal use of now banned organochlorines is having a long-lasting legacy and apparently severe impact on the killer whale population in the Hebrides (aka West Coast Community, WCC). The WCC is morphologically and ecologically distinct from other killer whale populations, characterised by a higher trophic diet including other cetaceans (Foote et al., 2009). With only two males left in this population, its imminent extinction has been linked to both high PCB burdens (Jepson et al., 2016; Desforges et al., 2018) and demographic factors (Beck et al., 2014; Foote et al., 2021). No specific conservation measures have been implemented to prevent the extinction of this population in UK waters, despite explicit recommendations being made following two decades of research (Beck et al., 2014). The decline of killer whales in UK waters and disappearance of bottlenose dolphins from the southern North Sea highlights the need to better protect marine mammals from organochlorine and other toxic pollutants in the future (Jepson et al., 2016).

Finfish aquaculture is a major industry in the UK and the largest food export from Scotland. Acoustic emissions in attempts to deter seals from stealing farmed fish from open sea-pens have been highlighted as a significant concern for acoustically-sensitive marine life (Findlay et al., 2018). Specifically, this source of acoustic pollution causes harm (hearing impairment) to harbour porpoises in Scottish waters, including within areas designated for their protection (Findlay et al., 2021). Salmon food pellets used in aquaculture increasingly comprise Antarctic krill. Although certified as sustainable, the industrial extraction of krill from the Southern Ocean Whale Sanctuary has been identified as a key cause for concern because of competition for food. This may affect the recovery of whale populations in the Southern Ocean which have yet to reach pre-commercial whaling levels (Hofman, 2016; Savoca et al., 2021). Therefore, what we feed to our farmed salmon in the UK may be impacting distant whale populations in the Southern Ocean.

HWDT has long-standing concerns about the impact that Joint Warrior exercises, which take place biannually in Scottish waters, have on cetaceans. Cetaceans are reliant on using sound underwater and are sensitive to underwater noise. In particular, the scientific literature clearly links both disturbance (Parsons et al., 2000, Sivle et al., 2015, Tyack et al., 2011), at-sea injury and mass strandings (Dolman et al., 2010, Parsons et al., 2008, Parsons, 2017), of cetaceans to the use of military sonar. Unusual Mortality Events (UMEs) linked to the use of military sonar also appear to be on the rise, with the largest ever beaked whale stranding occurring in 2018 (Dolman et al., 2021).

4. How effective are the global protections of marine mammals?

One global measure which has been particularly successful is the IWC moratorium on commercial whaling. However, a recent study highlights issues with legal and ethical loop-holes that may undermine such agreements. Using Icelandic whaling as a case study, Ryan et al. (2021) reviewed international research conducted in collaboration with whaling. They found that such activities may undermine diplomatic efforts to uphold international treaties to protect marine mammals. For example, UK Government funding has been used to fund research involving the intentional killing of minke whales by Iceland, despite the UK government formally objecting to Iceland's reservation against the whaling moratorium. In the case of research using the outcome of e.g. Japanese, Norwegian, or Icelandic whaling, researchers and their institutions may become tacitly complicit in contemporary commercial and alleged scientific whaling, when these activities may not be consistent with UK ethical standards or laws (Ryan et al., 2021). Existing treaties protecting marine mammals could be safeguarded if UK-based research institutions applied the same ethical standards in international research as they are required to do for domestic research.

5. How can the UK better protect marine mammals? What role can the UK Government play to protect and promote the conservation of marine mammals internationally?

To better protect marine mammals in UK waters, there is a need for ongoing, cost effective monitoring of populations here. Such monitoring should be capable of detecting and understanding changes in densities. Our long-term monitoring work at HWDT provides one model for how this can be achieved using low cost vessels, a mixture of traditional and innovative techniques and public support. However, core support for such data collection schemes is necessary, as well as funds to analyse the data. There is a need for research on the biology of deep divers in UK offshore waters, including beaked whales, which are known to be particularly sensitive to acoustic impacts, including military sonar, as well as monitoring the populations of deep diving species offshore, potentially using new technology such as offshore drifters, Autonomous Surface Vehicles (ASVs) and gliders.

There is a need for more regular and Europe wide surveys (and supported by the UK) such as SCANS I-III, including aerial and shipboard surveys and supported by strategic long-term Passive Acoustic Monitoring (PAM) in between, as well as resources to analyse such data. It would also be useful to pull together the variety of PAM datasets already in existence from various sources and provide resources to the community to collaboratively analyse these data. A resource similar to the Joint Cetacean Data Programme (JCDP) could be envisaged for PAM data and it should be encouraged that those data become publicly available to drive

the development of open-source analysis tools which are available to the community as a whole.

The UK should implement noise mitigation measures for offshore construction or seismic surveys by setting noise thresholds and lower source levels where possible rather than focussing solely on risk assessments and (often) ineffective marine mammal monitoring alongside those activities. Additionally, newly emerging active sounds sources, or proposed survey methods, such as newer generation Acoustic Deterrent Devices (ADDs), acoustic anti-biofouling devices, or active sonar surveys carried out using ASVs, also need to be considered with regard to their impact on marine mammals, before they are deployed widely in the marine environment.

The UK should implement protected areas for marine mammals and apply suitable management measures to achieve the conservation objectives within these sites.

Internationally, the UK should support efforts by the International Maritime Organization (IMO) to reduce underwater noise from shipping, to ensure that the next steps following the current review of the 2014 guidelines do lead to measures that effectively reduce underwater noise. The UK should also support the proposal from France, Spain, Italy and Monaco for a PSSA (Particularly Sensitive Sea Areas) with effective associated protective measures in the Mediterranean to reduce ship strike risks to fin and sperm whales. Domestically, the UK needs to actively progress the UK Bycatch Mitigation Initiative (BMI) and meet the requirements of the Fisheries Act to minimise and, where possible, eliminate sensitive species bycatch. The basic structure of CleanCatch with a National Steering Group, Regional Working Groups and Local Focus Groups has the potential to achieve useful outcomes. However, this relies on establishing Regional Working Groups who can then start to coordinate activities, develop specific proposals and create appropriate local groups to implement them. So far, there is only one Regional Working Group (SW England) and this has only met once. Regional Groups need to be established to cover all UK waters and given timelines and resources to implement measures that effectively tackle marine mammal bycatch.

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