Habitats Regulations Assessment and Other Policy Implications

Scanning of the proposed Seagrass Ocean Rescue project in Dale Bay in the context of the Habitats Regulations indicates that **the aims of the project contribute directly to the improved conservation management of the Pembrokeshire Special Area of Conservation (SAC)**. This contribution is through the improvement of site condition towards a more favourable conservation status through the increase in extent of seagrass.

The Habitats Directive aims to "maintain or ***restore***, at favourable conservation status, natural habitats and species of wild fauna and flora of community interest" (Habitats Directive, Article 2(2)). This aim relates to habitats and species, not just the 'European sites', although the sites have a significant role in delivering favourable conservation status. Under the Habitats Directive, intertidal and subtidal seagrass beds can be key components of the features 'Sandbanks which are slightly covered by sea water all the time' and 'Large Shallow Inlets and Bays' and 'Estuaries', and are in an unfavourable conservation state within many areas of Wales, the UK and specifically the Pembrokeshire Marine SAC.

Seagrass beds are a component part of the 'Large Shallow Inlets and Bays' and 'Estuary' features of Pembrokeshire Marine SAC. They are noted in the feature descriptions and typical species for both features in the Pembrokeshire Marine SAC regulation 37 advice package. The restoration of seagrass beds are not considered to have a likely significant effect on the features of the site. This restoration project as a whole was considered to be working specifically towards the conservation objectives for the 'Large Shallow Inlets and Bays' feature of Pembrokeshire Marine SAC through the increase in extent of seagrass. Not only would the presence of additional seagrass in its own right contribute to improving feature condition, but seagrass is also known to bring with it many conservation benefits including overall increase in amount of biodiversity in the area, improvements to fisheries, and water quality improvements due to the 'filtering' of pollutants and the uptake of nitrogen. Other benefits include carbon capture and natural flood defence.

There exists extensive evidence of sub-littoral seagrass beds being in decline in area, density and condition throughout Wales (e.g. Kay 1998, Jones and Unsworth 2016, Jones et al. 2018).Where beds still exist, they can, in many cases, be described as existing in an unfavourable conservation state. Specifically, some of the larger seagrass meadows in the Milford Haven Waterway are in an unfavourable state (e.g. Littlewick) as their density has declined by at least 50% since the 1980's (Unsworth et al. 2017).

Environment (Wales) Act 2016

This proposed seagrass restoration project contributes to the responsibilities of Natural Resources Wales under Section 7 of the Environment (Wales) Act 2016. Seagrass beds are listed under Section 7 of the Environment (Wales) Act 2016 and as a public authority NRW, must seek to maintain **and enhance biodiversity** of those habitats listed under Section 7. The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under Section 7, and encourage others to take such steps.

Well-being of Future Generations (Wales) Act 2015

Through the Well-being of Future Generations (Wales) Act 2015 the Welsh Government also has a responsibility and legal obligation to **improve** our social, cultural, environmental and economic well-being. Restoration of seagrass beds that have been defined as a social-ecological system provide an opportunity to assist with the improved environmental health of the natural environment and with it

supporting economic and social well-being. Specifically, seagrass restoration contributes to supporting a resilient Wales with improved biodiversity and healthy functioning ecosystems. Seagrass Ocean Rescue (the proposed seagrass restoration project) intends to not only plant seagrass, but also ensure active community and user participation in the project, thereby presenting opportunities for future communal recreational activity and educational events.

Climate Change Act

A 2019 amendment to the 2008 Climate Change Act commits the UK to net zero carbon emissions by 2050. The UK Government Committee on Climate Change has recommended that to achieve this the Welsh Government has a 95% reduction in carbon emissions by 2050, however the Welsh Government has committed to introducing further legislation in 2020 to target net zero emissions by 2050. In order to ensure these large reductions in emissions Wales will need to consider a range of different actions across society, some of which will target the enhanced ability of our natural environment to uptake carbon dioxide. These so-called 'Nature Based Solutions' include seagrass restoration. The ability to include such solutions requires the large-scale demonstration (such as that proposed in Dale) of the methods necessary for their widespread application in a range of localities.

In addition to the legal instruments set in place around the problems of climate change, the UK Government, the Welsh Government and the Pembrokeshire County Council in 2019 all declared a state of climate emergency based around parliamentary or council votes. Although these declarations were made, little action in response to these declarations has yet to be decided upon. Restoring our oceans ability to store carbon is a major part of the solutions available. This proposed seagrass restoration project has the capacity to provide government at local, regional and national levels a pathway forward for such action and stand as a beacon of hope. 2 hectares of seagrass could result in the long-term storage of up to 750 metric tonnes of stored Carbon (Green et al. 2018) and if the project were to be scaled up in other locations, assist with making a major impact upon our zero carbon emissions targets.

Water Framework Directive Assessment

The Water Framework Directive 2000/60/EC commits Wales to achieve good qualitative and quantitative status of all water bodies (including marine waters up to one nautical mile from shore) by 2015. This has largely not been achieved within the Milford Haven Waterway due to its catchment level problems with elevated nutrients. Substandard water quality, due to land (mainly agricultural) run-off has contributed to 10 of the 15 features of the Pembrokeshire Marine SAC being in unfavourable condition. Due to its capacity to uptake nitrogen and phosphorus from the water column, the restoration of seagrass to the Milford Haven waterway will help to improve the environmental quality of this water body. Estimates from restored seagrass meadows in the US indicate that 1 hectare of seagrass can uptake approximately 35kg per year of nitrogen (Aoki et al. 2019). Seagrass beds are also seen as an indicator of environmental quality within the framework and their presence and healthy status can indicate a health water body.