

## APPENDIX D: PEMBROKESHIRE MARINE SAC INFORMATION

The Pembrokeshire Marine SAC covers an area of 138,069 ha. The site extends from near Abereddy to Manorbier and includes the coast of the islands of Ramsey, Skomer, Grassholm, Skokholm, the Bishops and Clerks, and The Smalls (21 miles offshore). It also encompasses almost the entire Milford Haven Waterway. The landward boundary of the SAC mostly follows the extreme high water mark.



**Figure 1: Pembrokeshire Marine SAC**

Pembrokeshire Marine SAC is a multiple interest site that has been selected for the presence of eight marine habitat types and associated wildlife (Habitats Directive Annex I habitat types) and seven Annex II species (Habitats Directive Annex II species).

Annex I habitats that are a primary reason for selection of this site comprise:

- Estuaries
- Large shallow inlets and bays
- Reefs

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site comprise:

- Coastal lagoons and sandbanks which are slightly covered by sea water all the time
  - Mudflats and sandflats not covered by seawater at low tide
  - Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
  - Submerged or partially submerged sea caves

Annex II species that are a primary reason for selection of this site comprise:

- Grey seal, *Halichoerus grypus*
- Shore dock, *Rumex rupestris*

Annex II species present as a qualifying feature, but not a primary reason for site selection comprise:

- Sea Lamprey, *Petromyzon marinus*
- River Lamprey, *Lampetra fluviatilis*
- Allis Shad, *Alosa alosa*
- Twaite Shad, *Alosa fallax*
- Otter, *Lutra lutra*

It is considered that the potential impacts arising from nutrient enrichment could affect all but two of the designated habitat features. The features likely to be impacted include:

- Estuaries
- Large shallow inlets and bays
- Coastal lagoons
- Mudflats and sandflats not covered by seawater at low tide
- Atlantic salt meadows (*Glauco-puccinellietalia maritimae*)

## RELEVANT INTEREST FEATURES

### ***Estuaries***

Pembrokeshire Marine SAC includes the Daugleddau estuary (the estuary which forms from the following four rivers; the Western and Eastern Cledday, Carew and Cresswell rivers). The estuary supports a wider range of environmental conditions, particularly a variety of seabed substrata, tidal streams and salinity gradients, creating a diverse array of communities and species. The species-richness of sediment communities throughout Milford Haven and the Daugleddau is high. The site also includes smaller estuaries entering the Daugleddau and Milford Haven and wide intertidal mudflats with rich and productive invertebrate annelid and mollusc communities, occurring in rivers or streams known as ‘pills’.

### ***Large shallow inlets and bays***

The Milford Haven waterway, within the Pembrokeshire Marine SAC, is a ria with wide, shallow, predominantly sandy embayments. As with the estuary feature detailed above the wide range of environmental conditions supports high community and species diversity. The species richness of sediment communities is particularly high, with intertidal sandy/muddy areas supporting extensive beds of narrow-leaved eelgrass *Zostera noltei*, *Zostera marina* and muddy gravels.

### ***Mudflats and sandflats not covered by seawater at low tide***

Intertidal mud and sand-flats are habitat types that vary considerably throughout the site.

Sediment flats within Milford Haven waterway are accreting slowly in places but expansion is curtailed by channel structure throughout much of the waterway. Extent has also been reduced through intertidal land claim, shoreline development and possibly indirectly modified as a consequence of channel dredging.

### ***Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)***

Atlantic salt meadows develop when salt-tolerant vegetation colonises intertidal sediments of mud and sand in areas protected from strong wave action. This vegetation forms the middle and upper reaches of saltmarshes, where tidal inundation occurs with decreasing frequency and duration. The salt meadow is distributed intermittently throughout the Milford Haven waterway, with the largest areas within the tributary estuaries.