

Environmental Description for the EMEC Tidal Test Facility

The south west coast of Eday from Seal Skerry extending to Newbigging comprises low-lying dune systems with shingle and fine gravel along the upper shore and superficial sand overlaying rocky outcrops lower down. Following from Newbigging to beyond War Ness, sandstone cliffs with moderately exposed bedrock dominate the intertidal area. The habitat along the shoreline follows the typical pattern of communities associated with exposed to moderately exposed rocky shores. Some examples of the intertidal species found can be seen below.



From the shoreline the depth decreases steadily from 1m at the coast to between 34 and 51m in the main channel where the tidal devices are to be deployed. The seabed ranges from sub-littoral sandbanks in the east of the test site area, to smooth scoured bedrock ridges and platforms towards the centre, with any mobile sands or gravels swept away. Surveys undertaken as part of the EIA process identified the sub-littoral areas as sparsely inhabited and fairly uniform in regard to the limited species in the area. Boulders and small patches of coarse sand can support *Laminaria* spp. and the associated red algae *Rhodomenia palmate*. The encrusting coralline algae, sea anemones, starfish and sea urchins can also be found. Images from ROV surveys can be seen below.



Images of sea bed at the Fall of Warness

Animals which are also known to pass through the test area include:

- Harbour and grey seals from colonies on the nearby uninhabited islands of Muckle Green Holm and Little Green Holm, Faray and Holm of Faray, Seal Skerry and The Graand.
- The harbour porpoise is the only cetacean to be recorded regularly off the south west coast of Eday. Transitory species include white-beaked dolphin, minke whale and killer whale.
- Herring, mackerel, haddock, ling, saithe and cod, which are all present in seas around Orkney, and non-commercial smaller species are also likely to be present.
- Shore birds such as ringed plover, meadow pipit and rock pipit can be found, together with cormorants on Little Green Holm.
- There has also been some evidence of otter activity along the south west Eday coastline.

Inshore fishing takes place around the test area, targeting lobster and crab species. Orkney Ferries also use a route through the Fall of Warness during periods of strong flood and easterly gales. The tidal test site is located within a charted area to be avoided by vessels larger than 5000grt.