OCEAN OBSERVATORY SCOTLAND

MAERL BEDS

FACTFILE

Mainly formed by two common maerl species : *Phymatolithon calcareum* and *Lithothamnion glaciale*
Size : up to 10cm
Depth : 25 - 38m

SPECIAL FEATURES..

Maerl is a purple-pink hard coralline algae that forms twig-like shapes (thalli), making unattached 'carpets' on the seabed, known as 'maerl beds'. Phymatolithon calcareum is a fragile, branched species of maerl that usually resembles a stag's horns. On open coasts exposed to waves, maerl grows as flattened discs, with a hard, brittle skeleton. It thrives in waters less than 20m depth on sand, mud or gravel substrata, in areas protected from strong wave action.

SUPERPOWERS!

Maerl beds are crucial for ecosystem function. They provide:

Healthy communities : the interlocking carpet-like beds create the perfect conditions for diverse communities of plants and animals to live and thrive on, between and under the pieces of maerl.
Rich habitats : for many species, including burrowing bivalves, urchins, worms, sea cucumbers, and anemones.
Scallop nurseries : young scallops depend on maerl beds to grow, making them vital for Scotland's scallop fisheries.
Blue carbon store : helping capture and lock away carbon, which supports climate regulation.

DID YOU KNOW?

White beaches across Western Scotland are made of fragments of dead maerl, crushed by the waves and bleached by the sun.

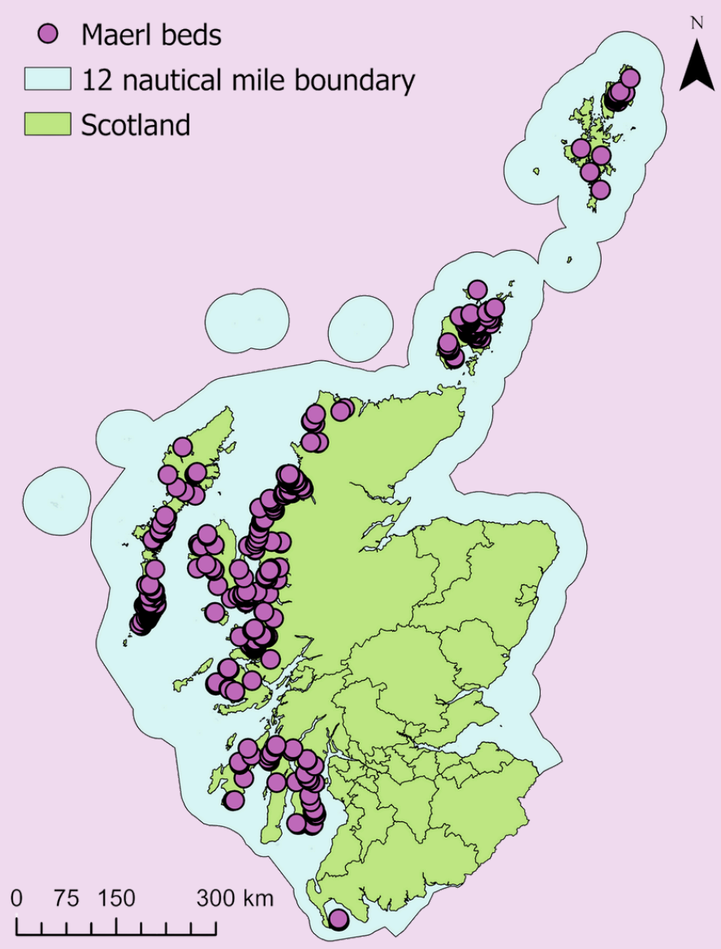
FUN FACT !

In France, the importance of maerl is celebrated through the **Fête du Maërl** (Festival of Maerl)**,** a cultural event that takes place every four years!

DISTRIBUTION

Scottish distribution - Scotland holds about 30% of all maerl beds in north-west Europe. They are common along Scotland's west coast, the Outer Hebrides, and fast-flowing areas in Orkney and Shetland.

Wider distribution - They are also found in parts of England, Wales, Ireland, and across northern Europe.



MAIN THREATS!

Fragile and slow growing, maerl can be damaged by **dredging, heavy anchors** and **mooring chains**. Scallop dredging has been shown to cause significant damage to maerl beds and to their associated species. Maerl is expected to be adversely affected by **rising temperatures** and **ocean acidification** caused by climate change.

IMPACTS..

Its slow-growing nature means maerl beds can take decades to centuries to recover. The loss of habitats can have a drastic impact on the marine ecosystem. Maerl beds are also key scallop nurseries; their disappearance would heavily impact Scotland's scallop fisheries.

THERE IS HOPE!

Maerl beds are a Priority Marine Feature, a UK BAP habitat and an OSPAR threatened and declining habitat. Maerl beds are also protected in 11 locations around Scotland by a suite of Marine Protected Areas. We must ***raise awareness*** about this key species, so that more can be done to conserve them!