

SEACAMS2:

Characterising biofouling communities at tidal energy development sites

AIMS: To characterise and investigate variability in biofouling communities at marine renewable energy development sites in North Wales

RATIONALE:

- Colonisation of man-made surfaces in the marine environment by organisms, or biofouling, can have implications for marine renewable energy (MRE) projects through affecting device performance, maintenance, safety and environmental impact. This commonly results in increased costs to developers, especially if fouling is not considered at an early stage.
- Biofouling community characteristics vary widely between areas and through seasons.
- High energy sites suitable for MRE projects have been understudied due to their challenging conditions.



Left to right: a fouled wave buoy; settlement panels on a benthic instrument frame; fouling organisms sampled from an offshore navigation buoy, *Jassa falcata*, a tube dwelling amphipod whose tube masses can cause engineering problems.

METHODS:

- Settlement panels and scrape sampling will be used to sample fouling communities at various MRE development sites in North Wales.
- Variation in fouling communities through geographic space, depth and seasons will be investigated.
- The implications of the specific fouling species and communities identified will be discussed in the context of MRE projects planned for the region.

OUTCOME:

- The study will improve our understanding of fouling communities that are likely to develop on MRE infrastructure in North Wales.
- The results will be valuable for multiple stages of MRE projects in Welsh waters, helping to reduce unforeseen costs, improve prediction of fouling build up and inform robust environmental impact assessment.

