

Using moored and drifting Passive Acoustic Detectors to monitor Harbour Porpoises in tidal-stream sites

Benjamins, S.*, Elliott, J., Dale, A., Wilson, B.

SAMS (Scottish Association for Marine Science), Dunstaffnage, Oban, Argyll, Scotland, UK; PA37 1QA

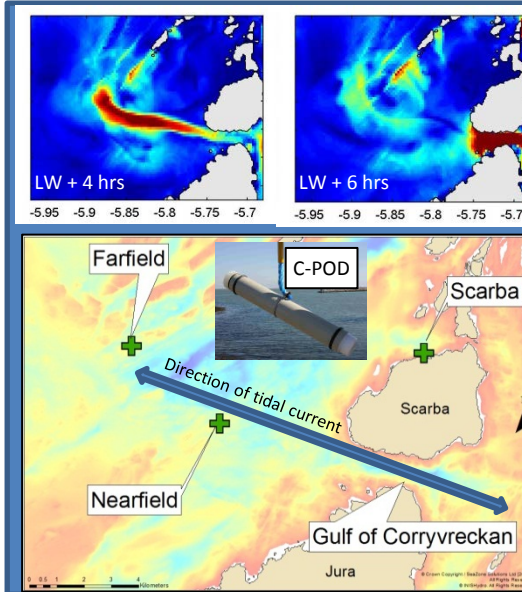
* Steven.Benjamins@sams.ac.uk

- Charismatic megafauna species such as marine mammals can delay or complicate consenting decisions for tidal-stream energy developments:
 - High-profile species protected by legislation
 - A new industry with the potential for impacts, but many unknowns
- Regulators demand high-quality data on animal distribution, habitat use etc., but marine mammals are hard to study!
 - Animals can be difficult to observe
 - Standard survey methods may not work well in fast-flowing waters
 - Logistical difficulties

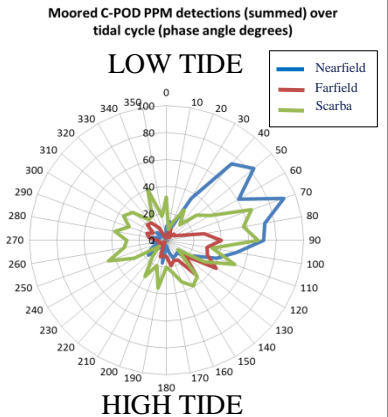


Use of C-POD porpoise click detectors on moorings and drifters:

- Moored units provide high temporal resolution in specific sites
- Drifting units provide good spatial resolution
- **Combining them provides high-resolution information on habitat use**



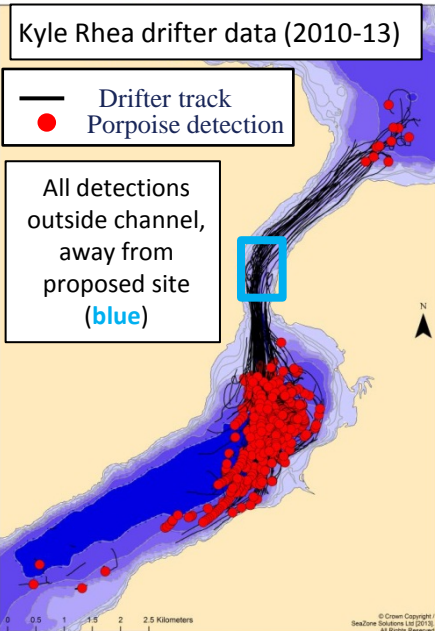
Gulf of Corryvreckan: Mooring data (+) from 3 sites (Nearfield, Farfield, Scarba [control], 2011)



Kyle Rhea drifter data (2010-13)

— Drifter track
● Porpoise detection

All detections outside channel, away from proposed site (blue)



- Caveats:
- Only high-resolution data, so broader context needed
 - Mooring deployment/retrieval can be hard
 - Risk of pseudo-replication
 - Easily lost/stolen (Moored)
 - Uneven effort distribution (Drifters)
 - Flow noise (Moored)

