Measuring disturbance effects of UAVs on grey seals

Chiara Bertelli, Anouska Mendzil, Hanna Nuuttila, Angharad James

SEACAMS2, College of Science, Swansea University, Singleton Campus, Swansea, SA2 8PP, UK

Rationale

The application of Unmanned Aerial Vehicles (UAVs) in the field of ecology is being increasingly recognised with a number of studies using different systems for collecting survey, identification and measurement data for monitoring populations of marine mammals. The project aims to help inform the MRE sector on the viability of using small UAVs for surveying seals and possibly other marine mammals.

Methods

Two haul-out sites in Wales were chosen to investigate disturbance effects of UAVs on grey seals. Seal behaviour was monitored from a vantage point via focal follow and scan methods, with and without drone disturbance. Two types of UAV were used for surveys: DJI Inspire (quadcopter) and eBee Sensefly (fixed-wing).

Results

Currently, our analysis show no significant effect of the fixed-wing UAV, but a significant effect of the quadcoptor on the disturbance response of the hauled-out seals. UAV height of the quadcoptor had a significant effect on the disturbance response of the seals, but seals only flushed when the quadcoptor was flown at 10m altitude.

Outcomes

If disturbance levels are successfully tested then this will provide Pembrokeshire Coastal Forum (PCF) and Natural Resources Wales (NRW) with more evidence on which to advise consultants, researchers and the public on safe practise for using UAVs in the vicinity of these animals.

Swansea University Prifysgol Abertawe

SEACAMS

Sir Benfro Pembrokeshire PCF Fforwm Arfordir Coastal Forum

Cronfeydd yr UE: Buddsoddi yng Nghymru EU Funds: Investing in Wales

This project is part funded by the European Regional Fund through the Development Welsh Government

Contact: Chiara Bertelli
Email: C.M.Bertelli@Swansea.ac.uk
Tel: +44 (0) 1792 602154

Poster produced August 2019