

# Underwater Noise Services (marine renewables)

## About

The UK has amongst the highest levels of renewable energy resources in the world, and has the potential to become a global leader in both engineering development and energy production.



The planning and development of commercial scale arrays is subject to a number of environmental laws and regulations. To remain compliant with the legislation, it is important that the developer fully understands the risks associated with the project.

There is increasing recognition that underwater noise associated with the construction, operation and decommissioning of marine renewable plant can be significant, and this may often be in areas that historically have not experienced major anthropogenic disturbance. The resulting man-made underwater noise therefore has the potential to disrupt communications and impact the hearing of marine animals.

## Managing Underwater Noise

To assist developers in managing underwater noise risks throughout the project life cycle of marine renewable developments, ABPmer are pleased to offer a range of specialist services including:

- Desk-based review of device/environment/receptor interaction;
- Environmental impact assessment based on latest available knowledge of:
  - Background noise levels;
  - Source levels associated with devices;
  - Models of sound propagation underwater;
  - Hearing sensitivity of marine receptors including marine mammals and fish;
  - Predictions of impact zones.
- Negotiation of mitigation requirements and monitoring conditions;
- Reporting against consent conditions;
- Decommissioning support.



## Further Information

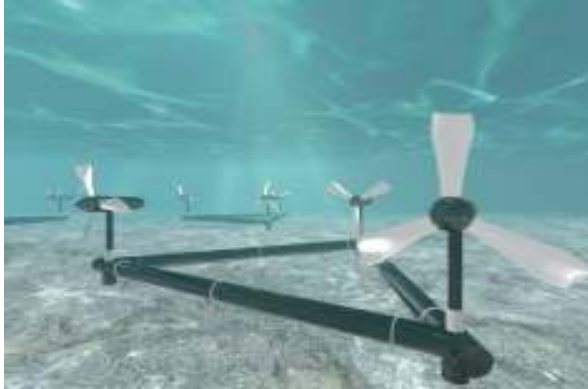
Please phone Elena San Martin, ABPmer: 02380 711840

Bottlenose dolphins image courtesy [www.charliephillipsimages.co.uk](http://www.charliephillipsimages.co.uk)



## Underwater Noise Services (marine renewables)

### Understanding Underwater Noise Impacts



ABPmer has significant experience in the assessment of underwater noise risks associated with the construction and operation of marine developments for EIAs and in developing practical options for mitigation including the development of agreed mitigation and monitoring programmes.

Our underwater noise assessments integrate the very latest research in acoustic modelling with knowledge of species responses, to determine the range and effect of underwater noise.

We use desk based tools to predict the transmission and attenuation of underwater sound from a noise source using both narrowband and broadband acoustic propagation models.

All assessments can be refined through more detailed acoustic modelling where sufficient data allow.

Using species specific hearing thresholds, we can estimate the hearing zone for different species.

We also offer the estimation of physiological and behavioural impact zones for marine mammals and fish in the context of existing ambient sea noise using weighting scales, such as the M-Weighting and dBht metric for marine species.

These weighting scales provide a species specific noise level referenced to an animal's hearing ability and, therefore, a measure of the potential of the noise to cause an effect.



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Grey seal image courtesy [www.oceansedgephotography.co.uk](http://www.oceansedgephotography.co.uk)



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