

An underwater scene with numerous bubbles rising from the bottom towards the surface. Sunlight rays penetrate the water from the top left, creating a bright, shimmering effect. The water is a clear, vibrant blue. A large, dark red, curved shape overlaps the bottom right of the image, serving as a background for the title text.

ASSESSING THE IMPACT OF UNDERWATER SOUND ON MARINE LIFE



Concern has grown in recent years over the potential effect of sound on marine mammals, fish, turtles and other marine life. Regulations in many countries mean that it is increasingly important to robustly assess the potential effects of offshore and coastal development on marine life.

The specialists in the acoustics team at RPS have extensive knowledge and experience in assessing the potential impact of noise from offshore activities on marine life. We work closely with our highly skilled marine mammal and fish ecologists to offer a unique integrated approach to noise assessment. Our practical knowledge across many offshore industries means that we present clear and defined solutions, rather than presenting problems.

Rather than produce academic reports, we pride ourselves on communicating the complex issues in an easy to understand format, which in turn reduces the consenting risk as regulators can fully appreciate the assessment outcomes. To this end, we work closely with regulators and their advisors to hone our underwater noise assessments and to ensure that we always reflect the latest scientific research and best practice.

This practical, yet robust, approach is demonstrated by our track record of successful projects and repeat clients.

Our Services Include:

- Underwater noise modelling using peer reviewed methodologies
- Underwater noise impact assessments
- Marine survey permit applications (e.g. seismic / geophysical)
- Underwater noise design / FEED studies
- Comparative assessments (e.g. for decommissioning activities)
- Technology development
- Underwater noise surveys and monitoring (baseline / construction / operational / sound source verification)
- Assessment of effects of underwater blasting
- Assessment of effects of piling
- Advice on mitigation including noise reduction, soft start, MMO, PAM and ADD
- In-field sound source verification (SSV) surveys





OUR EXPERIENCE

Northern Petroleum – 3D seismic survey in the Southern Adriatic

RPS undertook a detailed underwater noise modelling study and impact assessment for a proposed seismic survey offshore Italy. We liaised with the regulator throughout the study and used robust peer-reviewed acoustic modelling in order to ensure consent. During the project, the acousticians worked closely with our seismic survey engineers in order to model different source array configurations and choose the one which represented the lowest risk to marine life, whilst still meeting the technical criteria for seismic acquisition.

Perenco Ltd - Guinevere wellhead

Impact assessment on the use of explosives for wellhead decommissioning, including subsea noise modelling and marine mammal assessment. Following on from this, RPS was engaged to undertake underwater noise monitoring during P&A operations to verify the noise modelling.

ORJIP Project 4, Phase 2 - understanding the effectiveness of ADDs on minke whale

RPS managed a project for the Offshore Renewables Joint Industry Partnership (ORJIP) looking at the effectiveness of ADDs to deter minke whales from injury zones arising during piling at offshore wind farms. The project was part of a vital UK-wide collaborative programme of environmental research aimed to reduce consenting risks for wave, tidal stream and tidal range projects. The study found that whales responded quickly to ADDs and that they moved to distances that could prevent injurious effects from subsea noise. As a consequence of the project, the study method and results were used to inform government guidance on mitigation for marine development and will serve as valuable information for other activities including seismic surveys, unexploded ordnance detonation, and offshore mineral excavation.

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