

# Marine Noise Monitoring Survey Completed

Without mitigation, the installation of driven piles in the marine environment, along quaysides for instance or during installation of offshore foundations, is likely to produce noise levels capable of causing injury and disturbance to marine animals. The UK-based firm Partrac was contracted recently by TSL Contractors to provide marine monitoring services which included acoustic (marine noise) data acquisition prior to, and during, piling works for the construction of Fishnish Pier, Sound of Mull, Scotland.

Such effects, although incidental to consented activities, have the potential to conflict with a range of legislative provisions. Although guidance is available to developers on how best to run projects in an environmentally sensitive manner (including the JNCC The Standard Piling Protocol) and how to mitigate noise impacts, often the regulatory process obliges developers through a License Condition to institute formal marine noise monitoring to assess quantitatively noise levels.

The sensitive receiver in this project was a salmon farm some 600m away from the construction site. For the work Partrac developed a bespoke, stable marine monitoring platform modified to reduce ambient noise and which included a high-end, ultra low noise and wide dynamic range marine hydrophone. The instrument, small enough to be carried around in your hand, is especially easy to use, setup, download and calibrate, and is particularly suited to longer term monitoring applications. Although not used in this project, the instrument is also capable of being configured to deliver data in real time, 24/7. The instrument delivers both WAV and spectral output, and software was specially written to analyse the vast amount of data generated and specifically to inspect the data more closely in the peak auditory frequency band.

Regulatory specifications within the License Condition dictated that sound levels should be no more than 79dB above species (salmon) hearing threshold at or close to the peak auditory frequency (~180Hz). The results showed unequivocally that piling operations at any point during the monitoring period never created noise levels in excess of the threshold, and thus the works were judged unlikely to cause injuries (e.g. hearing impairment) to the salmon.

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