Pictorial explanation for <u>why the dBA metric is not useful</u> for the quantification of infrasound and low frequency noise.

(by Mariana Alves-Pereira, 2018)

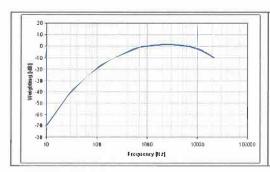


Fig. 1
Frequency response curve used by the dBA metric.

The dBA began its development in the 1920's, to improve telephone acoustics.

With decreasing frequency, there is an increasing difference between what the dBA measures and what is actually present in the environment.

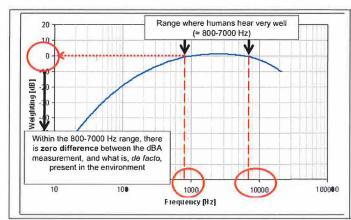


Fig. 2 The dBA metric is a good methodology to protect the human hearing function.

For forensic purposes, occupational deafness is checked at 4000 Hz.

The dBA assumes: "what you can't hear won't hurt you."

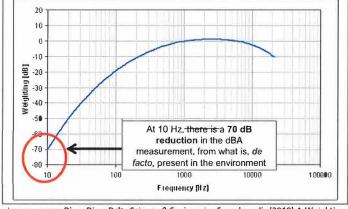


Fig. 3
At 10 Hz, the dBA
metric will reduce
the numerical value
of its measurement
by 70 dB.

At 10 Hz, the dBA metric does not quantify the acoustical energy that is present in the environment.

Image source: Dirac Dirac Delta Science & Engineering Encyclopedia (2018) A-Weighting. http://www.diracdelta.co.uk/science/source/a/w/aweighting/source.html#.W45nwy2ZORs