The level and the ecological risk assessment of heavy metals (Zn, Cu, Mn, Fe, Ni, Cr, V, As, Pb, Cd and Co) were evaluated in surface sediments from fifty-one stations along the Algerian coast. The main objective was to evaluate the risk that such metals may cause to the ecosystem, and thus the stations were choose in relation with the fishing trawlable areas of Algeria. The usual chemical indexes Geoaccumulation index (Igeo), Enrichment factor (EF) and Pollution Load Index (PLI) as well as potential ecological risk index reveal that the metal pollution along this coast is low, and is only related to As contents. Nevertheless, the concentrations of Ni, Cr and As exceed their respective ERL values (Effect range low) usually applied for Sediment Quality Guideline. However, Cr and Ni are mainly natural and cannot be related to anthropogenic inputs and their ecotoxicological levels as to be questioned.