

# Healthy ocean for healthy seafood: effect of environmental factors on fish welfare and quality, according to the “one health approach”

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Chemical contaminants are constantly found in the oceans and due to their environmental persistence, toxicity, bioaccumulation and biomagnification through the food chain, may have adverse effects on marine ecosystems and human health.

The accumulation of contaminants affects not only fish, but also fish consumers. Fish and fishery products are main nutrition security components as a source of essential fatty acid, such as omega-3 polyunsaturated fatty acids (PUFAs), which play a critical role on health and function of marine organisms at all trophic levels. Therefore, it is important for the fishery value-chains to understand the mechanisms of contaminant's bioaccumulation, biomagnification and the side effects of their transfer to humans, through the food chain. Since in fish chemical contaminants accumulate in different tissues and organs, it is critical to investigate the effects of bioaccumulation on chemical composition and quality of fish products to understand the effects of contaminants along the food web system, from sea to human according to the “one health” approach.

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