

Shellfish as biological indicators of environmental pollution in costal ecosystems

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Shellfish are filter feeders, able to accumulate different contaminants present in seawater (microorganisms, metals, pesticides, etc.) within its tissue. Consequently, they act as bio indicators of the environmental status of coastal ecosystems. On the other hand, the collection of wild populations and farming of shellfish in coastal areas and their consumption, (whether cooked or raw), are widely distributed around the globe. During 2015 and 2016, we monitored the presence and amount of aerobic mesophilic bacteria and the *Enterococcus* spp., *Listeria monocytogenes*, *Salmonella* spp. and *Escherichia coli* bacteria on three commercial shellfish farms and at one finfish farm in the Middle Adriatic. The results revealed that mussels cultured at all sites are completely safe for human consumption according to the Croatian national legislation of food standards. During 2016, we determined the geochemical and isotopic characteristics of noble pen shell *Pinna nobilis* tissues (Linne, 1758) collected at different locations of Kornati National Park. The obtained results showed differences in the amounts of PTE (Potentially Toxic Elements), REE (Rare Earth Elements), PGE (Platinum Group Elements), $\delta^{13}\text{C}_{\text{ORG}}$ and $\delta^{15}\text{N}$ between zones with different protection and management regimes. Coastal ecosystems are considered to be the most productive areas on earth but are also the most exposed to anthropogenic influences. Monitoring of the microbiological status of shellfish from these areas, as well as the levels of different metals in their tissues, is important from the perspective of monitoring environmental pollution but also from the perspective of food safety.

Key words: shellfish monitoring, stable isotopes, anthropogenic influence