



Nitrogen stable isotope ratios of anthropogenic organic matter in the coastal environment of Kosirina Bay (Murter Island, Croatia)

T. Dolenc (1), Ž. Lambaša (2), S. Lojen (3), N. Rogan (1), G. Kniewald (4), and M. Dolenc (1)

(1) Department of Geology, Faculty of Natural Sciences and Engineering, Aškerčeva 12, 1000 Ljubljana, Slovenia, (matej.dolenc@ntf.uni-lj.si), (2) Šibenik-Knin County, Vladimira Nazora 1, 22000 Šibenik, Croatia, (3) Department of Environmental Sciences, Jožef Stefan Institute, Jamova 39, 1000 Ljubljana, Slovenia, sonja.lojen@ijs.s, (4) Ruđer Bošković Institute, Benička 54, Zagreb, Croatia (kniewald@irb.hr)

In this study stable nitrogen isotopes ratios of particulate matter POM, zooplankton and selected biota such as *Anemonia sulcata* and *Mytilus galloprovincialis* were used to assessed the impact of anthropogenically derived organic matter from the untreated domestic sewage, municipal and industrial effluents on the coastal ecosystem of the Kosirina Bay (Murter Island). The differences in ^{15}N values observed in POM and organisms collected in Kosirina Bay as compared to POM and biota sampled at unaffected sites from the southern part of the Kornati Island and highly impacted Pirovac Bay revealed only a very minor effects of anthropogenic inputs of nutrients and organic matter which most probably derived from a sewage outfall south of the Tužbina Island. However, to get a better insight into the qualitative or quantitative shifts in the structure of aquatic food web caused by pollutants, more extended research on benthic population is needed, as well as a detailed investigation of seasonal variations of abundance and isotopic composition of POM and zooplankton as their presumed food source.