

Anthropogenic Organic Contaminants in Water and Sediments of Ballona and Del Rey Lagoons of Los Angeles, California, USA.

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This study aims to evaluate the pollutant deposition process in response to extensive human activity and urbanization in the Ballona and Marina del Rey Lagoons in urbanized region of Los Angeles, California. This is done by performing a complete chemical analysis of organic pollutants such as polycyclic aromatic hydrocarbons (PAH-8310-EPA) present in the lagoon sediment and water. Furthermore, this study investigates the factors that influence the geochemistry of the wetland daily and seasonally, such as flood and ebb (high and low tide), as well as factors that change the geochemistry significantly over time. In this study, we focused at the role of storm drainage runoff systems in relation to excess polluted water transport. Eleven samples were collected in dry and wet seasons. The results showed that one of the wet season sediment samples (Sed-03-Bal) contained higher amount of benzo(a)pyrene (0.023 mg/kg); indeno (1,2,3-cd) pyrene (0.0450 mg/kg); Benzo (g, h, i) perylene (0.0937 mg/kg); fluoranthene (0.0281 mg/kg); and pyren (0.0271 mg/kg). One of the dry season samples (Del-01-Sed) showed also a higher Acenaphthylene (0.0170 mg/kg) level in Del Rey lagoon. The PAHs concentration for all other samples were below detection limit value. These samples were taken in the areas close to storm runoff and highly urbanized region of SW side of Los Angeles in Ballona and del Rey lagoons. We believe, different land uses in example urbanization and urban runoffs appear to be the key factors in controlling the level and composition of PAHs in lagoon sediments. This study will take these factors into account and correlate the degree of PAHs concentration with the levels of the PAHs pollution in sediment and water of different localities through literature synthesis.