Planktonic and benthic communities of a natural-human urban wetland (Case study: Lahijan pool)

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Abstract

Today, the environmental and habitat importance of wetlands has been revealed for all societies and special attention is paid to urban wetlands for recreation, boating, fishing, hunting, and aquaculture. One of the most important natural-man-made wetlands of Gilan province is located in Lahijan city and is called Lahijan pool. The objectives of this research were to investigate and identify the phytoplankton, zooplankton, and aquatic communities of this wetland in five stations and during four seasons. From the fall of 2017 to the summer of 2018 in this habitat, which has an area of 11 hectares and a depth of less than 4 meters, planktons and crustaceans were sampled by standard methods and the results showed that the average water surface temperature was 17.16 ± 7.3 degrees Celsius, dissolved oxygen The water level was 7.05 milligrams per liter, the pH of the water depth was 3.85, and the average percentage of organic matter was 3.29 ± 1.26. Phytoplanktons was identified in 7 branches and 29 genera, and in terms of annual abundance, blue-green algae ranked first with 48% and Bacillophyta ranked second with 43%. 4 groups and 18 species of zooplankton have been identified in this ecosystem, of which pinnipeds were the most abundant with 35%. Oligochaeta and Chironomide larvae were the only identified benthic groups that had 167 numbers per square meter. In general, the species diversity of plankton and crustaceans in this wetland was low, but the density of the present species was determined to be relatively high. According to the physicochemical characteristics of the water and the planktonic and benthic species of this lagoon, it should be considered a eutrophic ecosystem, but of course, the input and output of water and the aeration that takes place in it can create the conditions for the breeding of some tropical fish or crabs. Make fresh water possible.

Keywords: Wetland, Biological communities, Physicochemical of water, Trophy.