



Juliana Lake: A Benghazi Wetland In Distress!

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Of all the remaining natural habitats of Benghazi's urban area (NE Libya), perhaps the most threatened are its karst lakes and coastal salt marshes (locally known as Sebkhas). Juliana Lake stands out as one example of a fragile ecosystem that is steadily shrinking and exposed to dredging and, consequently, possible damage to its aquatic organisms, and the inevitable loss of its renowned biodiversity. Several 19th & 20th-century traveler's sketches and maps, soil maps, photographs and satellite images provide the bases for change in the size and magnitude of the lake and its adjacent areas over time. The study also includes an assessment of the sediment composition and texture of material accumulating at the bottom of the lake. These sediments are composed essentially of mixtures of Sebkha sediments such as salty clay, silt, and clayey sand. The sediments at the surface and around the Juliana Lake, however, are represented by quite soft whitish to yellowish and scattered patchy limestones of unknown affinity. Terra-rossa (reddish soil) and Quaternary caliche are present also but calcarenites (clastic limestone) cover considerable part of the studied area. The bio-micro components of these sediments are described and a number of small-sized benthic foraminifera have been identified. Macrofauna, which are primarily presented by recent benthic seashells belonging to phylum mollusca, have also been investigated and several species have been identified to the species level wherever possible. Other calcareous biotic components are predominantly shell fragments of molluscs, bryozoans, echinoderms and calcareous coralline red algae. It is concluded that the distribution, diversity and abundance of the total benthic organisms recovered in this survey reflect that the local habitat of the Juliana Lake were rich in nutrients and consequently providing an important food source for fishes, birds, and mammals. In fact, without these benthic organisms, these larger animals would not be able to survive. Finally, it is recommended that more specialized and detailed landscape ecological studies need to be undertaken by specialists to fully assess the peculiarities of Juliana Lake. Similar survey work should also be completed for other wetland natural habitats in the region to fully understand their original functions and values, and assess recent alteration trends and consequences.