Seagull Lake is an unusual saline lake, having a marine spring connected to a large continental ecosystem. With climate change the balance between the two is likely to change. This lake originated about 6000 years ago as a marine bay, since occluded by coastal dunes. Presently the main lake varies in salinity seasonally from 75 to 200 g/L with the spring virtually constant at 37-40 g/L; in severe summers the main lake dries. Invertebrates number 37 species of which 17 are marine confined to the spring, including two cnidarians, two polychaetes, four crustaceans and eight mollusks. The lake itself supports a few widespread continental saline species, and other freshwater-derived invertebrates in the peripheral lake lets. A fish, *Leptatherina presbyteroides*, lives permanently in the main spring and spreads to the lake in winter. Thirty-nine species of birds have been seen on the lake including only a few regular species but many transients. The Banded Stilt is by far the most common and Seagulls and Fairy Terns breed on lake islands each spring. With climate change, decreased rainfall and higher sea level will deliver more marine water to the lake, changing its geomorphology and initially lowering its salinity. This will result in increased invertebrate and bird diversity and probably allowing some marine animals into main lake, which would be permanent. However, eventually evaporation will increase salinity resulting in a salt flat with virtually zero diversity.

**Key words:** lake origin, compartmentalization, salinity regime, marine invertebrates, other invertebrates, fish, waterbirds, predicted changes.

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**References**


