

Dead Sea - why is it dying?

SHEET 1

Use this text to help you complete the crossword.

Created by the same shift of tectonic plates that formed the Syrian-African Rift Valley several million years ago, the Dead Sea owes its precarious state to both human and geological factors. Originally part of an ancient, much larger lake that extended to the Sea of Galilee, its outlet to the sea evaporated some 18,000 years ago, leaving a salty residue in a desert basin at the lowest point on earth—1,300 feet below sea level. Since then, this body of water, known as the Dead Sea since Greco-Roman times, has maintained its equilibrium through a fragile natural cycle: it gets fresh water from rivers and streams from the mountains that surround it and loses it by evaporation. The evaporation process, combined with its rich salt deposits, account for its extraordinary—up to 33 percent—salinity (compared with the up to 27 percent salinity of Utah's Great Salt Lake). Until the 1950s, the flow of fresh water equaled the rate of evaporation, and Dead Sea water levels held steady. Then in the 1960s, Israel built an enormous pumping station on the banks of the Sea of Galilee, diverting water from the upper Jordan, the Dead Sea's prime source, into a pipeline system that supplies water throughout the country. To make matters worse, in the 1970s Jordan and Syria began diverting the Yarmouk, the lower Jordan River's main tributary.

Since then, the Dead Sea has declined dramatically. It needs an infusion of 160 billion gallons of water annually to maintain its current size; it gets barely 10 percent of that. Some 50 miles long in 1950, the sea is about 30 miles long today. Water levels are falling at an average rate of three feet per year. According to a recent Israeli government study, the rate of evaporation will slow and the Dead Sea will reach equilibrium again in a few decades—but not before losing another third of its present volume.

Such a scenario represents an immeasurable loss. Tourists have flocked here for generations to float in the brine, soak in mineral and mud baths and take in the dramatic panorama of Israel's Judean Desert and Jordan's Moab Mountains. Sufferers from chronic skin diseases, such as psoriasis and eczema, routinely make pilgrimages, attracted by the bone-dry climate, oxygen-rich atmosphere and—some claim—the sea's miraculous healing properties.

And despite its name, the Dead Sea helps support one of the world's most complex and vibrant ecosystems. Fed by fresh water springs and aquifers, a half-dozen oases along the shore harbour scores of indigenous species of plants, fish and mammals, including ibex and leopards. About 500 million birds representing at least 300 species, including storks, pelicans, lesser spotted eagles, lesser kestrels and honey buzzards, take refuge here during a biannual great migration from Africa to Europe and back again. Ein Feshka, a lush expanse of tamarisk, papyrus, oleander and pools of crystal water, was used by the late king Hussein of Jordan as a private playground in the 1950s and early '60s. But as the Dead Sea recedes, the springs that feed the oases are moving along with it; many experts believe that Ein Feshka and other oases could wither away within five years.

According to environmentalists, about two-thirds of the drop in the Dead Sea's water level is due to the companies and farms that divert water from the Jordan river in Israel, Jordan and Syria. The remaining 30-40 per cent is caused by the large mining companies in Israel and Jordan that steer its southern waters into evaporation ponds to make potash and bromine. The Dead Sea has lost more than a third of its surface over the past two decades.

Large sinkholes have appeared along the Dead Sea's shores, which officials and environmentalists link to the drop in water levels; in Ein Gedi, Israel, the highway that runs along the shore has been diverted to avoid them. On the Jordanian side, hotels have built staircases and elevators to convey tourists down to the receding shoreline.

