The morphology and dynamics of Lake Sevan, Armenia, have abruptly changed on several occasions during the Holocene. Arguably the most significant events took place about 4000 years BP, when a phase of aridity greatly reduced the size of the lake and about 2100BPwhen the combined effect of an episode of volcanic activity that dammed the single outlet to the basin and the initiation of a wetter climatic phase, culminated in the development of the modern lake. Archaeological evidence indicates the extent of the first event, while the development of aquatic communities and increase in diversity of, for example, ostracods, characterises the second. Recent environmental stress, caused by a significant drop in water level due to human activity has resulted in changes in the ecosystem and food chain, resulting in a decline in ostracod diversity compared to both the earlierHolocene and sub-Recent. The living fauna is characterised by abundant Candona neglecta and Cyprideis torosa, common sexually reproducing Limnocythere inopinata, and less common Fabaeformiscandona caucasica, Candona candida, Cyclocypris ovum, Cypria ophthalmica and Darwinula stevensoni