approaches has provided a relatively holistic picture of floodplain water chemistry, its plankton diversity and dynamics. In terms of water chemistry the floodplain waters are naturally eutrophic, neutral waters, invariably with strongly developed vertical physico-chemical gradients and oxygen depletions at the bottom. Small pools and backwaters of this type have unique phytoplankton structure, different from other types of water bodies. Prevailing dominance of flagellates (both in terms of frequency of species occurrence and biomass contribution), Cryptophyceae, Euglenophyceae, Dinophyceae, and Chrysophyceae, and low proportion of green chlorococcal algae and diatoms, and virtual absence of Cyanophyceae is unusual for such eutrophic waters. The hypothesis, that flagellate dominance is enabled by their ability to keep the vertical position in permanently light-limited conditions (resulted from poorly mixed water columns and intensive shading of water surface by vegetation) was tested and verified by different approaches. Both external and internal factors determine the biological and chemical processes within the open-ecosystems of alluvial waters. Among external factors, floodplain geodiversity plays crucial role, determining morphology and location of pools and backwaters, their exposure to flooding and inflows of underground water. Terrestrial vegetation affects light exposure, i.e. amount and composition of phytoplankton and macrophytes and algae, photosynthesis and decomposition of leaf litter. Oxygen regime diverts the pools to aerobic and micro-aerobic types. Flooding creates and maintains floodplain geodiversity by re-forming floodplain geomorphology and keeps its biodiversity by inoculation of biota into the floodplain subsystems and differentiation of its impact on these subsystems. Therfore, maintaining and enhancing of natural flooding and land use, aimed at maintaining mosaic terrestrial vegetation, where both floodplain forest and open areas are represented, seem to be the two main prerequisites of sustainable management of this riverine landscape.

**Popijaè A., I. Ternjej, Z. Mihaljeviæ & M. Kerovec.** *A comparative study on benthic macrofauna in two shallow Mediterranean lakes.*

The species richness, diversity and seasonal dynamics of benthic macroinvertebrates were studied and compared in two shallow Mediterranean lakes, one covered with dense submerged macrophytes, the other with macrophyte poor. Lake Jezero (0.37 $km^2$) and Lake Ponikve (0.875 $km^2$) was investigated during 2000 and 2001 as a part of a suitability for water supply on Krk Island (409.9 $km^2$), Adriatic Sea, Croatia. Sampling was done monthly from November 2000 to October 2001. Quantitative samples of macrozoobenthos were collected at five stations in the lake from 0.5 to 11 m depth and at four stations in Lake Ponikve from 0.5 to 7 m depth, using an Ekman grab (sampling area, 0.01 $m^2$). Physico-chemical parameters (dissolved oxygen, oxygen saturation, biological oxygen demand, temperature, pH, total dissolved solids, conductivity, nitrate, nitrite, ammonium, orthophosphate, chlorophyll a and transparency) were also measured. Compared with investigations in 1980s and 1990s, there was a gradual increase of dissolved nutrients and productivity in both lakes. The two lakes differed considerably in the community structure of macrozoobenthos and submerged vegetation. Once diverse and lush (six taxa in 1980s), submerged vegetation is now completely absent in Lake Jezero. Species richness, average macrozoobenthos diversity and average abundance are also lower in Lake Jezero (25 taxa, H'=0.65 and 545 individuals $m^{-2}$) than in Lake Ponikve (57 taxa, H'=1.56 and 9340 individuals m-Natural eutrophication processes in the shallow lake and its shift from vegetation-dominated clear water state to turbid non-vegetated state could be the reason for differences between investigated lakes (Lake Jezero is much older). In addition, the long-lasting high water and sediment concentration of aluminium in Lake Jezero, is an evidence of human influence from 1970s to present. In order to improve the water quality in Lake Jezero, low stocks of grass carp and silver carp were introduced in 1974 and 1976. Emergent macrophytes were also cut periodically. Some benthivorous cyprinid fishes were also introduced occasionally for sport fishery purposes. All these measures could be responsible for present state in Lake Jezero, but because the measures were without a discreet management and monitoring program, their influence on changes in benthos community and water quality is not so clear.