

Aquatic Ecology

MERYEM BEKIOGLU: Causes and ecological consequences of water level and salinity changes on shallow lakes

The Mediterranean climate zone will be markedly affected by changes in temperature and precipitation patterns in the near future. This may be exacerbated by increased demands for irrigation water. Based on a literature review and long-term data from different lakes covering a geographical gradient and several degrees of latitude, I will discuss how changes in water level and salinity related to climate change and water abstraction impact the ecosystem structure, function, biodiversity and ecological state of shallow lakes.

NUNO CAIOLA: Effects of flow regulation on the establishment of alien fish species: a community structure approach to biological validation of environmental flows

The lower Ebro River (Catalonia, Spain) has a fish community dominated by alien species. This stretch of river is regulated by many dams, and its flow has been severely reduced by increasing water uses. We found strong evidence that the success of establishment and dispersal of alien fish species is enhanced by flow reduction through decreased water flow velocity. The fish community/water velocity relationship was used to perform an ecologically based validation of 12 environmental flows proposals.

DÍDAC JORDÀ-CAPDEVILA: An integrative ecosystem services approach to analysing inter-stakeholder conflict related to water flow management

River conflicts have been widely studied. However, their relationship with the appropriation of instream flow-related ecosystem services (ES) has not been examined. The aim of this study was to make such an analysis, taking into account stakeholders' views. In the case of the Ter River, three ways of informing conflictive water-flow management were used: 1) recognition of diverse benefits from river flows, 2) analysis of hydrological alterations affecting ES production through space, and 3) identification of trade-offs among ES.

ELENA ABELLA: Sea turtles in the Mediterranean: recent nesting events in Catalonia

The number of sporadic loggerhead sea turtle nesting events along the Catalan coast has increased in recent years. Most of these events have occurred on beaches with high levels of human activity, which can lead to damage of eggs and hatchlings. Why are these events occurring? Which management measures need to be implemented in order to ensure the survival of eggs and hatchlings? How can involving the general public help in the management of these sporadic events? The session will answer all these questions and others regarding sea turtle conservation.

IGNASI ARRANZ: What does fish size distribution tell us about trophic interactions and human pressures in aquatic ecosystems?

Body size distributions (i.e. abundance as a function of body size) of fish are often well-represented as linearly decreasing functions, but non-linear patterns may occur. We identified non-linear patterns in fish size distribution in 74 lakes, and explored potential causes of systematic deviations. The most non-linear patterns were found in lakes with higher densities of predators per prey, but smaller predators relative to prey length. Human activities, such as overfishing, were also related to non-linear patterns, thus non-linearities can be used as indicators of human disturbances.

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