

T6-P464 High-resolution automatic water quality monitoring of reservoirs from the Júcar River Basin Administration

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The timely information regarding water quality of freshwater ecosystems is essential in determining assessments in systems monitoring. In the case of reservoirs, the use of Automatic Monitoring Systems (AMS) allows to continuously monitoring and assesses water quality, obtaining prompt reliable measures at a time when transient events occur in the water column. For this purpose, different AMS have been installed and commissioned in some reservoirs from the framework of the Júcar River Basin Administration (Confederación Hidrográfica del Júcar, East Spain). These AMS are equipped with submersible probes of some representative environmental variables (turbidity, pH, Red-Ox, underwater light, conductivity, temperature, oxygen, chlrophyll-*a*). Data received in the control center from the AMS have been review continuously and corrective measures have been performed when necessary. These AMS are not totally unattended and the quality of collected data has also relied in a routine maintenance program (cleaning, servicing, etc.). Moreover, for calibrate readings, periodic verification samplings has been conducted by personnel of the Limnology Unit of the University of Valencia and ADASA SISTEMAS. The results addressed here represent time-course high resolution profiles obtained with some of the AMS installed in the network. These AMS have been successful in providing information on changes in the water quality and its evolution over time, therefore giving support for management decisions. *On this sense, through these efforts, we try to improve the management program established to supervise those reservoirs of the catchment intended for human water supply.*

T6-P485 Caracterización horaria de los cambios producidos en el caudal por una central hidráulica

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En el presente trabajo se incluye un análisis y una caracterización de parámetros hidrológicos a partir de datos de aforo y de datos de caudal turbinado, en una minicentraleléctrica que dispone de datos horarios. Dado el detalle de los datos, se pueden obtener algunos valores que no se consiguen con datos diarios. Entre estos datos encontramos los que caracterizan el pulso de funcionamiento de la central, de esta forma podemos medir, la magnitud, la duración la velocidad de ascenso y descenso y compararla con las del régimen natural del río. Estas mediciones nos ayudarían a evaluar las posibles afecciones que ocasionan los cambios del régimen, y sus consecuencias en las poblaciones biológicas del mismo. El trabajo se ha desarrollado en el río Urumea, este río tiene una sucesión de centrales fluyentes con pequeños azudes, de las que cuatro han dejado de funcionar y otras cuatro están produciendo, de estas últimas una de ellas dispone de una estación de aforo que mide tanto el agua que fluye por el río, como el

agua que fluye por el canal que deriva a la central. Del análisis de los datos se han observado que hay diferencias significativas entre el caudal natural y el turbinado en las centrales en la velocidad de descenso, la magnitud y en el número de pulsos, además en la duración del descenso, que presenta valores ligeramente superiores a los del caudal natural. Esta caracterización junto a los muestreos biológicos que se están realizando en los tramos afectados y en los tramos libres, nos van a permitir relacionar qué aspectos del régimen de turbinado pueden tener mayores resultados ambientales y en consecuencia se podrán realizar recomendaciones en la gestión de las centrales, que mejoren la coordinación entre la producción, y la conservación del río.

T7-Estuarine ecology

T7-P321 Estuaries from a meiofaunal perspective: biodiversity patterns of benthic nematodes

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Estuarine meiofauna communities have been only recently considered to be good indicators of ecological quality status, in contrast with macrofauna which is widely used in the assessment and monitoring of aquatic systems. Meiofauna features, such as their small size, high abundance, rapid generation times and absence of a planktonic phase, make these assemblages potential target indicators. In estuaries, we must account not only for great natural variability (e.g. salinity, sediment type and dynamics, oxygen availability, temperature, flow speed) but also for the multiple anthropogenic pressures (high local population density, presence of harbours, dredging activities) that act upon the systems. The meiobenthic community of the Mondego estuary (Portugal) was analyzed, with especial emphasis on the spatial and temporal biodiversity patterns along the entire estuarine gradient. Both taxonomic and functional approaches (density, number of taxa, Margalef and Shannon-Wiener indices, Index of Trophic Diversity and Maturity Index) were applied to nematode communities in order to describe the community structure and to relate it to environmental parameters. The results showed that, at all sampling locations and times, salinity and grain size composition were the main abiotic factors controlling community distribution. Additionally, a low temporal variability was observed, which may indicate that natural variability may be superimposed by the anthropogenic pressures present in some areas of the estuary. The integration of both taxonomic and functional attributes proved to be important in assessing the ecological status of estuaries, reinforcing the need to develop a nematode-based multimetric index.