



SCARCE Newsletter II



July 2011

During the last months, the 1st SCARCE annual report has been produced. It has to be evaluated by experts from the Spanish Ministry of Science and Innovation (MICINN). Besides of this assessment, the External Scientific Committee has evaluated the first project year, resulting in a positive valuation and some recommendations to improve the development of SCARCE project.

At the end of June 2011, SCARCE has completed the first 18 months of the project. During these months the collection of historical data has taken place simultaneously to the obtaining of experimental data from the field. Both processes are almost finished and the first results will appear by the end of the year.

As a result of a very successful 1st SCARCE annual conference, the most interesting contributions were selected for their publication in the journal Environmental Science and Pollution Research under the edition of Philippe Garrigues. Most of these contributions have been accepted or published online, including a descriptive paper about the project and its main objectives:

- Occurrence of perfluorinated compounds in water and sediment of L'Albufera Natural Park (València, Spain) - Yolanda Pico
- New indexes to quantify complexity of environmental chemical monitoring inventories: background and case study - Antoni Ginebreda
- Assessing the effects of tertiary treated wastewater reuse on a Mediterranean river (Llobregat, NE

Spain). Part III: Pathogens and indicators - M. E. Rubiano

- Establishing causal relationships between the presence of endocrine disrupting compounds and the benthic community in a European river basin - Rikke Brix
- Assessing and forecasting the impacts of global change on Mediterranean rivers. The SCARCE Consolider project on Iberian basins - Alícia Navarro-Ortega

The Environmental Science and Pollution Research special issue will probably be available before the end of the year, in coincidence with the 2nd edition of the SCARCE annual conference that will be held in Madrid during 28-29 November 2011.

During the first six months of 2011, several meetings have taken place to ensure collaboration of the different groups that belong to the consortium and plan the future activities after the 1st SCARCE sampling campaign:

- WP3-WP5 visit to different Ebro watersheds for in-situ selection of monitoring reaches (February). Two



coupled sample points (or reaches) were selected in the same river system in order to determine: i) the impact of regulation caused by dams, and ii) the added impact of regulation and degree of *Mediterraneity* in the physical habitat, hydrology, biological communities and metabolic processes.

- WP6 meetings in Valencia (March) and Madrid (May) to establish how and in which sub-basins the different models included in the project will be applied.
- Principal Investigators meeting in Madrid (June). The leaders of all the groups belonging to the consortium and the leaders of all Work Packages assisted to a meeting in which the first year of the project was evaluated and the basis for the following months were stated.

To ensure transfer of knowledge one training course for students and scientists has taken place and two more will be held during the following months:

- "Economics for water services management" (19-21 May 2011, Seville): with the participation of 11 lecturers, 5 participants in the round table "Water economics in selected sectors" and 21 students. The goal of this 20-hours advanced

course was to analyze the role of Economics in the decision making, in order to promote a sustainable management of ecosystem services, in a framework of change, uncertainty and complexity.

- A seminar on "Environmental Flows: Recent Developments and Applications at Basin Scale" will be held in the Technical University of Valencia on 5-6 September 2011. More details in the following Newsletter.
- A course on "Managed artificial recharge for sustainable water management under varying climate conditions: quantitative and qualitative aspects" will be held at the end of the year. More details in the following Newsletter.

In the last six months the number of SCARCE participants has increased from 80 to 120. A short CV of each of them is included in the "SCARCE who is who" available in the SCARCE website (www.idaea.csic.es/scarceconsolider). A printed version will be published by the end of 2011.

SCARCE has generated several **publications**, which have been published in peer reviewed journals, and communications in conferences.

SCARCE Project information

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Assessing and predicting effects on water quantity and quality in Iberian rivers caused by global change (SCARCE)

CONSOLIDER-INGENIO 2010
(CSD2009-00065)

Start date of the project: 17th December 2009

Duration: 5 years

PUBLICATIONS

ARTIGAS, J., GAUDES, A., MUÑOZ, I., ROMANI, A.M., and SABATER, S. Fungal and Bacterial Colonization of Submerged Leaf Litter in a Mediterranean Stream. *International Review of Hydrobiology*, 96 (2011), 221-234

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GAGO-FERRERO, P., DÍAZ-CRUZ, S. and BARCELÓ, D. Occurrence of multiclass UV filters in treated sewage sludge from wastewater treatment plants. *Chemosphere*, (2011) doi:10.1016/j.chemosphere.2011.04.003

GONÇALVES, C., PÉREZ, S., OSORIO, V., PETROVIC, M., ALPENDURADA, M.F. and BARCELÓ, D. Photofate of Oseltamivir (Tamiflu) and Oseltamivir Carboxylate under Natural and Simulated Solar Irradiation: Kinetics, Identification of the Transformation Products, and Environmental Occurrence. *Environmental Science and Technology*, 45 (2011) 4307-4314

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ROMANÍ, A. M., SABATER, S. and MUÑOZ, I. 2011. The physical framework and historic human influences in the Ebro River. In: D. Barceló and M. Petrovic (eds.). *The Handbook of Environmental Chemistry, Vol. 13: The Ebro River Basin* (2011), pp 1-20, Springer-Verlag Berlin Heidelberg.

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TONG, L., EICHHORN, P., PÉREZ, S., WANG, Y. and BARCELÓ, D. Photodegradation of azithromycin in various aqueous systems under simulated and natural solar radiation: Kinetics and identification of photoproducts. *Chemosphere*, 83 (2011), 340-348

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COMMUNICATIONS IN CONFERENCES

Presentation of the project

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NAVARRO-ORTEGA, A., MUÑOZ, I., SABATER, S., PETROVIC M. and BARCELÓ, D. El proyecto SCARCE Consolider en las cuencas fluviales ibéricas: La calidad del agua. Oral presentation. Agricultura, agua y energía, Madrid (Spain), 12th May 2011

Presentations related with the project

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BADIA, M., GAGO, P., OLIVARES, A., PIÑA, B., DÍAZ-CRUZ, M.S., BLANQUEZ, P., CAMINAL, G., BARCELÓ, D. and VICENT, T. Comparison of fungal biodegradation and photodegradation treatments for the elimination of UV filter benzophenone-3. Oral presentation. Water and Industry 2011. IWA Specialist International Conference. Valladolid (Spain), May 2011

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MEDICI, C. Progressive development of a hydrologic and inorganic nitrogen conceptual model to improve the understanding of small Mediterranean catchments behaviour. Oral Communication. REFRESH Project Meeting. Aberdeen (Scotland). 3rd - 7th April 2011

OSÓRIO, V., PÉREZ, S. and BARCELÓ, D. Biodegradation of non-steroidal antiinflammatory drugs (NSAIDs) and their non-halogenated analogs in nitrifying batch reactors. Oral presentation. SETAC, Europe 21st Annual Meeting Ecosystem Protection in a Sustainable World: a Challenge for Science and Regulation. Milan (Italy), 2011

PASQUATO, M., MEDICI, M. and FRANCÉS, F. Application of a conceptual distributed dynamic vegetation model to a semi-arid basin, SE of Spain. Oral presentation. EGU General Assembly. Vienna (Austria). April 2011

PÉREZ, S., OSÓRIO, V. and BARCELÓ, D. Investigating the formation of nitrated and nitrosated transformation products in activated sludge batch reactors: comparison of diclofenac with its non-halogenated analogs. Oral presentation. SETAC, 7th Annual LC/MS/MS workshop on environmental applications and food safety. Buffalo (USA), 2011

PÉREZ, S. and BARCELÓ, D. Transformation and removal of Pharmaceuticals and their human metabolites in Wastewater Treatment Plants: evaluation of secondary and tertiary treatments. Oral presentation (invited lecture). Sepwater. Barcelona (Spain), 2011

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