AG/Committee Name: Freshwater Salinization

Submitted by: Miguel Cañedo-Argüelles

Date:

Council/Board Liaison: Global Advisory Group

Executive Summary

During 2016 the AG has organized XX special sessions and XX AG meetings, and published a joint paper in the prestigious journal *Science* that has led to multiple interviews and press releases.

Organization

No unusual attributes to the organization or significant changes to the group have occurred during the reporting period. A new committee has been proposed, so chairs and committee members should be replaced. The new committee is formed by:

Chair – David Buchwalter, North Carolina State University, USA dbbuchwa@ncsu.edu
Deputy chair – Ben Kefford, University of Canberra, Australia ben.kefford@canberra.edu.au

Committee members:

Chris Nietch, US Environmental Protection Agency, USA - Nietch.Christopher@epa.gov
David J. Soucek, Illinois Natural History Survey, USA soucek@illinois.edu
Mindy Armstead, Marshall University, USA - m.armstead@marshall.edu
Miguel Cañedo-Argüelles, University of Vic, Spain – mcanedo.fem@gmail.com
Ralf Schäfer, University of Koblenz-Landau, Germany – schaefer-ralf@uni-landau.de
Cayetano Gutiérrez Canovas, University of Cardiff, UK - tano.gc@gmail.com
Claus-Jürgen Schulz, Thuringian State Institute for Environment and Geology, Germany - Claus-Juergen.Schulz@tlug.thueringen.de
Eckhard Coring, ECORING (private company), Germany - info@ecoring.de
Ana Lucia Gonzalez Achem, University of Tucumán, Argentina - anagonzalezachem@gmail.com
Jim Lazorchak, US Environmental Protection Agency, USA - Lazorchak.Jim@epa.gov
Paul Mensah, Rhodes University, South Africa - kojomens2@hotmail.com
Bakhtiyor Karimov, Uzbekistan Academy of Sciences, Uzbekistan - karimov@sarkor.uz

Activities Summary


Members of the group (E. Coring, Claus-Jürgen Schulz) organized and chaired a Special Session titled “Salinization of waters - a global challenge and its European aspects” during the annual meeting of the German Limnological Society (University of Duisburg-Essen, 21 to 24th Sept 2015). A further oral contribution by Claus-Jürgen Schulz on occasion of the annual meeting of the International Mining Water Association (IMWA) held at Leipzig (Germany, 7/2016) was the first time that mining water experts were confronted with the ecological consequences of the introduction of brines into running waters.


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Nietch, C., J. Lazorchak, B. Johnson, P. Weaver, N. Smucker, S. DeCelles, and S. Guglielmi. Presentation at the Aquatic Toxicology Symposium, Bar Harbor, MN, June, 2016. Parallel single-species and stream mesocosm exposures for grading major ion effects in doses mimicking energy extraction produced waters.


A closer collaboration between universities and water managers that led to the master thesis of Mr. Florian Eggers titled "Desalinisation of the river Wipper (Thuringia, Germany): results from long-term monitoring of the macrozoobenthos". Research activities between the universities of Barcelona and Swansea and the Dresden Groundwater Research Institute that directed to a EU project proposal.

**Future Plans**

Our future plan is to consolidate the network through a European COST Action that funds networking activities for 4 years. The submission date is tentatively set for 1 December 2016. That Action should serve to identify the priority research areas, the regions of the world that are at higher risk of salinization and to list best practices and management recommendations. This Action should also serve to consolidate a joint project proposal to be submitted to the European Horizon 2020 call. Some of the member of the AG are also working on a paper dealing with a global analysis of aquatic invertebrate responses to salinity, covering wide geographical and salinity gradients. Members of the group are active in modelling changes in ion concentrations of German and potentially European
surface waters with climate change. Research cooperation between members in Germany and Spain has been started and it is planned to intensify the action in 2017.

**Business and Planning Meetings**
We have been reached out by local authorities in Sallent and Suria (mining towns near Barcelona, Spain) to help them deal with the salinization of rivers and streams due to salt mining activities. Moreover, cooperations have been established with a team of scientists from Marocco lead by Prof. Znari that studies salinisation of the UN biosphere reservate Draa basin. Dr. Guitiérrez Cánovas and Dr. Cañedo-Argüelles met at the AIL (Iberian Association of Limnology) meeting at Tortosa (Spain), July 2016, to plan publications for the next year.

**Membership Communications**
Communication between members and also with other researchers around the world has been quite active (e.g. to coordinate the COST Action and the Science paper) and conducted mainly via e-mail.

**Issues/Problems**
No important issues or problems at the moment, although we would like to know better how to use the AG website. Maybe an online meeting or a video tutorial would help us to make the best out of the website.

**Current Steering Committee**
Ben Kefford, University of Canberra, Australia (chair)
Miguel Cañedo-Argüelles, University of Vic, Spain (co-chair)
David Buchwalter, NC State University, USA
Eckhard Coring, EcoRing, Germany
Ana Lucia Gonzalez Achem, Inst. de Biodiversidad Neotropical ,CONICET, Argentina.
Cayetano Gutierrez Canovas, Cardiff University, UK
Jim Lazorchak, US EPA, USA
Paul Mensah, Rhodes University, South Africa
Narcis Prat, University of Barcelona, Spain
Claus-Jürgen Schulz, Thüringer Landesanstalt für Umwelt & Geologie, Germany
Bakhtiyor Karimov, Uzbekistan Academy of Sciences

We thank the current steering committee and all members for their contributions to the AG.

**No. active members:** 35  
**Total membership:** 35