

Plants Advisory Group Annual/Semi-Annual Report

Submitted by: Gertie Arts and Mark Hanson, chairs of Plants

Date: 31 October 2014

Council/Board Liaison: World Council

Reporting period: 2013 – 2014

Executive Summary

The Plants Advisory Group is a global advisory group that emerged from the global Aquatic Macrophyte Ecotoxicology Group (AMEG: 2009-2013) in 2013/2014. In the reporting period (2013 – 2014) the SETAC Plants Advisory Group has organized sessions and group meetings at the SETAC North America meeting in Nashville, November 2013, and at the SETAC Europe annual meeting in Basel, May 13, 2014. The AG has 4 working groups. Recently a new working group was established in the field of terrestrial plant ecotoxicology. A non-target terrestrial plant workshop was organized in the beginning of April 2014 by a steering committee including members from this working group. A new *Glyceria* test guideline working group and a plant recovery working group have been established as well. The *Myriophyllum* Working Group has finished its work and the OECD Test Guideline 239 has been adopted and published by OECD on 26 September 2014. Future plans include an ecotoxicology session during the 14th International Symposium on Aquatic Plants in Edinburgh in 2015.

Organization

Plant AG is currently led by a Steering Committee of 12 scientists from North America and Europe representing Academia, Business, and Government, and chaired by Gertie Arts (NL; Gertie.Arts@wur.nl) and Mark Hanson (CA; mark.hanson@umanitoba.ca). For November 2014 it is planned to elect two new chairs from the Steering Committee.

Activities Summary

Annual meeting activities

In the reporting period (2013 – 2014) the SETAC Plants Advisory Group has organized sessions and group meetings at the SETAC North America meeting in Nashville, November 2013, and at the SETAC Europe annual meeting in Basel, May 13, 2014. In Basel the AG initiated the session "Plants and pollutants in the environment" with chairs Silvia Mohr, Claudia Cosio and Gertie Arts. This session was a collaboration between aquatic and terrestrial plant ecologists and ecotoxicologists and covered a wide array of plant related topics in the field of aquatic and terrestrial plant ecotoxicology, plant modeling, uptake and bioaccumulation studies, phytoremediation and risk assessment. Two session blocks of presentations and more than 30 posters presented research in this field. After the Glasgow 2013 meeting, the high number of presentations submitted to this session demonstrates a sustained and high interest in aquatic and terrestrial plant ecotoxicology and risk assessment. Overall the presented approaches and research on aquatic and terrestrial plants showed promising new developments. The presentations contributed to a better understanding of mechanisms for uptake and fate of contaminants in plants and for assessing potential risks of toxicants to non-target plants in the risk assessment of chemicals. A session report has been published in the *Globe*.

In Basel the Plants AG organized an open meeting for all interested scientists and students. Presentations were performed on the topics of the new *Glyceria* working group (Jo Davies) and Terrestrial plants: agreed recommendations from a SETAC Non-target terrestrial plants workshop

(Margit Dollinger on behalf of NTTP workshop Steering Committee). A new initiative of working on the topic of recovery of plants was agreed during the meeting.

In Nashville, the Plants AG organized a session titled "Ecotoxicology and Risk Assessment of Aquatic Primary Producers" organized by the Plants Advisory Group and the Soil Advisory Group and chaired by Mark Hanson and Gertie Arts. A Plants open meeting for all members was held with special guest speaker Olesya Hurksy, from Saskatchewan Research Council giving a presentation entitled "Development of Soil Toxicity Tests using Plant Species Native to the Canadian Boreal Ecoregion" and Glenn Thursby from USEPA giving a presentation entitled "Plants-Why I've spent the last 30+ years trying to get them the regulatory respect they deserve".

Working groups

Terrestrial plant group

Recently a new working group was established in the field of terrestrial plant ecotoxicology. The working group will develop guidance for terrestrial plant testing.

A non-target terrestrial plant workshop was organized in the beginning of April 2014 by a steering committee including members from this working group. The workshop was a SETAC level 3 technical workshop. The agreed recommendations from the workshop have recently been published:

Arts, Gertie H.P., Margit Dollinger, Eva Kohlschmid, Lorraine Maltby, Hugo Ochoa-Acuña, Véronique Poulsen, 2014. An ecosystem services approach to pesticide risk assessment and risk management of non-target terrestrial plants: recommendations from a SETAC Europe workshop. Environmental Science and Pollution Research DOI 10.1007/s11356-014-3637-6

Glyceria test guideline group

Under new EU pesticide regulations, tests with *Glyceria maxima* might be adequate in cases when *Lemna* sp. might not be protective. A new working group will work on a protocol and a ring-test in support of an OECD test guideline.

Myriophyllum test guideline group

The *Myriophyllum* Working Group (chairs Jo Davies and Margit Dollinger) has submitted a ring-tested draft *Myriophyllum* test guideline to the OECD in 2013, which was adopted as an OECD Test Guideline 239 on 26 September 2014. It can be found at: www.oecd-ilibrary.org/

Recovery group

We are forming a new working group around the concept of recovery in aquatic and terrestrial plants to address the following questions: How do we measure recovery of plants in experiments? How do we extrapolate to the field? How do we consider recovery of plants in risk assessment?

Coordination with Other Advisory Groups and Committees

The Plants AG cooperates with the soil AG in the field of plants. In cooperation with the Ecosystem Services AG a joint session proposal was submitted and approved for inclusion in the call for abstracts for the SETAC Europe Barcelona meeting in 2015.

Future Plans

The Plants AG has the following future plans:

- Plant-sponsored short course on macrophyte and plant risk assessment and ecotoxicology;
- Involve other GU (ongoing);
- Enhance student involvement;
- Identify other research/data interpretation needs from the environmental management and research communities;

- Outreach to other societies involved in macrophyte research, e.g., ecology, biocontrol, phytoremediation, wastewater treatment. In Glasgow contacts were initiated with ecologists from UK working on invasive plants. They have presented their work in our session and open AMEG meeting. Joint sessions and cooperations are within the possibilities for next years, e.g. with the European Weed Research Society (EWRS) in the field of invasive species. An ecotoxicology session will be organized by Silvia Mohr at the 14th International Symposium on Aquatic Plants in Edinburgh in 2015.

Business and Planning Meetings

The Advisory Group has organized two open meetings during the SETAC annual meetings in Europe and North-America. The Advisory group aims at a session in Barcelona in 2014. A joint session proposal with the Ecosystem Services AG is part of the call for abstracts for the SETAC Europe annual meeting in Barcelona in 2014.

Current Steering Committee

In 2014 the Steering Committee member's term expired. Elections were organized by Mark Hanson and the SETAC office in Pensacola. The new Plants Steering Committee includes 12 members: four from Academia, Business and Government each as presented in the table below:

Academia				
Gertie Arts	Alterra WUR	Netherlands	Europe	F
Mark Hanson	University of Manitoba	Canada	North America	M
Udo Hommen	Fraunhofer IME	Germany	Europe	M
Elisabeth Maria Gross	Université de Lorraine	France	Europe	F
Business				
Jo Davies	Syngenta	UK	Europe	F
Margit Dollinger	Bayer CropScience	Germany	Europe	F
Stefania Loutseti	Dupont De Nemour	Greece	Europe	F
Hank Krueger	Wildlife International	USA	North America	M
Government				
Silvia Mohr	Federal Environment Agency	Germany	Europe	F
Véronique Poulsen	Agency for Food, Environment and Occupational Health	France	Europe	F
David Olszyk	US Environmental Protection Agency	USA	North America	M
Eva Kohlschmid	Agroscope, Institute for Plant Production Sciences	Switzerland	Europe	F

The chairs of the new Plants AG are Mark Hanson and Gertie Arts. However, for November 2014 it is planned to elect two new chairs from the Steering Committee. Mark Hanson is liaison for the SETAC World Council. Silvia Mohr is contact person for the Plants website.

Membership Communications

Membership communications are organized via the SETAC website

https://www.setac.org/members/group_content_view.asp?group=90693&id=150250

Number of active members: 30 as a rough estimate (Steering Committee and Working Groups).
Total membership: officially 92 (members registered via the SETAC Website, October 2014).