Executive summary

The WGHABD met on 13–18 April in Lisbon, Portugal. The meeting was hosted by Teresa Moita, Portugal and chaired by Eileen Bresnan, UK. It was attended by 19 scientists from 11 countries with three scientists from an additional two countries participating by correspondence. The group addressed 12 terms of reference (ToR) relating to harmful algal bloom dynamics during the first year of their three year reporting term.

Members presented national reports on HABs during 2014 (ToR a). Highlights include the first report of concentrations of toxins responsible for paralytic shellfish poisoning (PSP) above the EU closure limit in *Mytilus edulis* Sweden and amnesic shellfish poisoning (ASP) in *M. edulis* in England. Closures of shellfish harvesting areas as a result of high concentrations of the toxins responsible for DSP were enforced in many countries in Europe and also in the USA. Cyanobacteria blooms were recorded in Poland, Finland and Sweden. A bloom of *Concinodiscus conncinus* produced nuisance slimes in Norway. ToR (d) examined the threshold/trigger limits for cell counts of shellfish toxin producing species/genera in phytoplankton monitoring programmes which vary throughout the ICES area. ToR (e) presented new findings on biosensors (Environmental Sample Processor, Imaging Flow Cytobot) in the USA, citizen science and HABs in France, *Vicicitus globosum* in Sweden and modelling *Karenia mikimotoi* in Scotland. Tor (h) reviewed the forthcoming ICES-PICES-IOC climate change and HABs symposium in Gothenburg in May 2015 where there have been 84 registrants. ToR (i) examined molecular methods for the identification of HAB species. Methods discussed included FISH, qPCR, and metabarcoding. ToR (k) addressed the physical and chemical control of different HAB species. This year focussed on the dynamics of *Gymnodinium catenatum* in the Iberian Peninsula. The role of upwelling and cyst beds were included in discussions to explain the variability of this species in this region. ToR (j) reviewed the current status of β-N-methylamino-L-alanine (BMAA) and clarified the confusion between discrepancies in the literature.

ToRs (g) and (l) reviewed the use of HAB/nuisance species for the EU Marine Strategy Framework Directive (MSFD) and JAMP phytoplankton monitoring guidelines. The WG flagged that HABs are influenced by numerous physical, chemical and biological parameters. In some instances HABs may be influenced by anthropogenic nutrient enrichment however there are cases where other hydrographic parameters have a dominant influence. Thus the presence of HABs should not be seen as an indicator of nutrient enrichment unless the link has been proven. Comments about the JAMP guidelines promote the use of plankton net samples to assess diversity and flag the absence of methodology to address subsurface blooms. The use of *Phaeocystis* as an indicator organism throughout the ICES area was questioned as there are non-eutrophic areas within the ICES area where blooms of this genus occur.

Three ToRs contribute towards the work of the IOC Intergovernmental Panel on HABs (IP-HAB). ToR (b) will produce a review of fish killing algae in the ICES area. This manuscript will be completed during the 2015 with a focus on northern Europe. As part of ToR (c) the WG held a one day workshop focussing on the Harmful Algal Event database (HAE-DAT) ([http://haedat.iode.org/](http://haedat.iode.org/)) on 15 April. This data is planned to be included in a Global HAB Status Report to be produced by IP-HAB. This workshop flagged issues with historic data to be addressed by group members before the 2016 WG meeting and priori-
tised issues for computer programmers to address to facilitate data extraction. ToR (f) addressed the production of a HAB status report which could act as an ICES contribution towards the IP-HAB Global HAB Status Report as well as a supporting document for the MSFD. The requirement for intercessional work prior to the next meeting was highlighted. Formal letters requesting data and highlighting its use will be sent to data providers. Example graphics from areas where the data is readily available will be produced before the 2016 meeting.

During 2016 the WGHABD meeting will be hosted by Raefele Siano in IFREMER, Brest, France, 19–22 April.