

BALLAST WATER OPPORTUNITY NEWSLETTER 2011/3

Introduction

In the past period at NIOZ some changes were made in the project management, which will be clarified below

WP 1 The project as a whole – Co-ordination

In the third quarter of 2011, the NSBWO Interreg IV project saw a change in the project management at NIOZ as lead beneficiary, since Prof. Marcel Veldhuis had left the institute. All other ballast water team members remained at NIOZ to continue their contribution to the project and facilitate its continuation. As the NIOZ management values the project and intends to ensure its continuity and success, it has appointed two staff members to ensure continued coordination and safeguarded scientific quality. As new project leaders, we would like to briefly introduce ourselves:

Jan Boon, Ph.D.: I am an ecotoxicologist at NIOZ on fate and effects of PCBs, organotin compounds from anti-fouling paints and brominated flame retardants. From 2005-2011, I have been responsible for the Communication & PR of NIOZ. I will be responsible for the overall co-ordination of the NSBWO project on behalf of NIOZ, of course with the skilled assistance of Etienne Brutel de la Rivière. I will act as work package leader for WP1. My contact details are: E: jan.boon@nioz.nl ; T: +31 (0)222 369 466, M: +31 (0)6 2096 3097.

Louis Peperzak, Ph.D.: I am a plankton ecologist on phytoplankton ecology. In 2010-2011 I worked briefly in the NSBWO project, studying new techniques for live-dead measurements of bacteria and phytoplankton using flow cytometry. I also supported the project's Ph.D. students in experimental design and statistical queries. I will be responsible for the scientific aspects of the project at NIOZ, and will act as work package leader of WP3. My contact details are: E: Louis.peperzak@nioz.nl ; T: +31 (0) 222 369 512, M: +31 (0)6 239 405 33.

We look forward to co-operate with all of you in the future.

Upcoming workshops

In September, NSBWO participants prepared for several important conferences in period 2011-4:

- The conference 'Emerging risks from ballast water' at the German Federal Institute for Risk Assessment (BfR) in Berlin on 19-21 October
- The 3rd Global Test Facility Forum on 24 and 25 October
- The IMO GloBallast and Republic of Turkey - Global R&D Forum and Exhibition on Ballast Water Management on 26-28 October
- Europort 2011 on 8 and 9 November

Although the first three meetings are officially outside the eligible area, they are at the core of the NSBWO project and therefore we solicited permission by duly notifying the JTS that we will join the meetings and give presentations.

WP 2 Policy

No News form WP2

WP 3 Science - Testing

A number of installations from different manufacturers, with different treatment techniques, ranging from filtration to electro-chlorination and UV-treatment, were tested for (pre)-certification. Data from the tests have been analysed and will be used for NIOZ reports on testing BWM systems as well as by Ph.D. students for their scientific articles.

The Ph. D. students continued their innovative investigations on the group of organisms between 10- 50 μm as specified in the Ballast Water Performance Standard. The group consisting of phytoplankton and microzooplankton, require rapid counting at low abundance. To this end NIOZ investigates different methods for concentrating samples. As some organisms in this group are very fragile and can easily be killed on a filter, the group requires careful handling. Therefore, we compare gentle techniques, such as centrifugation and concentration by using a low pressure vacuum pump, with filtration. As organisms move fast, it is also difficult to analyse them alive, hence Lugol is used for fixation. Because it is crucial to use the adequate amount of fixative, we compare the action of different Lugol concentrations.

We also initiated a "Science Plan" that will include a comprehensive description of the actual state and progress of the analytical and scientific NSBWO work performed at NIOZ. A part of this Science Plan is a flow cytometer inter-calibration workshop. New flow cytometers that have recently been purchased to replace their failure-prone predecessors will be calibrated to ensure continuity in organism counts during treatment tests. In addition, other NIOZ flow cytometers, as well as those developed by other international project members, or used in other institutes can be compared during this workshop.

WP 4 Science - Sampling

The work for WP4 focused on investigating additional methods for organism detection in ballast water. One of the most challenging aspects is to identify reliable methods to analyse viability of organisms. Research on such methods was initiated at the start of the project; it is an ongoing activity aiming to prepare a comprehensive report to summarise the located methods while inventorying their pros and cons. In the last newsletter we asked readers to contact WP4 should they be aware of methods to detect viable organisms as per the D-2 Standard of the IMO Ballast Water Management Convention. As we are in the final phase of methods summarising the report, we like reiterate the request.

Candidate technologies for detection of organism will be tested in planned practical workshops later in 2011 or early next year;. As a training for the practical workshops, one organism detection tool, i.e. the Pulse-Amplitude Modulated fluorometer (PAM), was re-tested with different algal cultures at NIOZ.

When sampling e ballast water one key aspect is to ensure to take representative samples such that the number of viable organisms is correctly represented in the sample . Comparative studies on different sampling approaches were undertaken during other studies on-board vessels, yet results have not been considered by a detailed statistical analysis. Results have not been arranged such that they are fit for a statistical analysis; the data have been sent to a statistician for further analysis.

We continued to introduce the BWO project at relevant scientific and shipping-related conferences and meetings

WP 5 Strategies

I am Mr. Chetan A. Gaonkar from India; I joined World Maritime University (WMU) on the 15th of August 2011 as a Research Associate replacing Ms. Hong Diem Vo, to join Professor Olof Linden on the North Sea Ballast Water Opportunity (NSBWO) project. I did my Ph.D. at the National

Institute of Oceanography (NIO), Goa investigating “Studies on settlement and recruitment of the barnacle *Balanus amphitrite*”. At present I am working on the North Sea Alien Species (NorSAS) web site here at WMU.



The initial phase of the website will compile information on the status of introduced species in the North Sea, as well as information on their biological and ecological background, pathways of introduction, consequences for the environment and economic and their management aspects. About 200 such species are reported from the North Sea region so far. The technical platform of the website is almost ready. The website needs to be completed with more information about the individual species occurring in the North Sea region. To this end data are being collected and collated through different databases and scientific resources, such as peer reviewed scientific articles, academic books, working group reports (i.e. WGITMO, HELCOM) and relevant Internet sites (i.e. DAISIE, FishBase, Algaebase.org, ISSG, NOBANIS, MarLIN, WoRMS, Aquatic Invasions etc). Species information on the website will include taxonomic details, common names, images, morphology description, biology (breeding habits, ecofunctional group), ecology (habitat, temperature/salinity tolerance). We will also include any notable impact in the North Sea, the status of population and species in the North Sea, pathways and vectors of introduction, feasible and potentially available management schemes, a GBIF species map and a North Sea occurrences map. Since it is not so easy to acquire all relevant information about a particular species at one shot, we intend to first fill in as much as possible the existing information about a particular species from present sources. We will then contact the individual species experts to gather more information on specific species. The work on the website is progressing well. When the website is to be launched, every species will have minimum required information on occurrence in the North Sea region, so a request to individual species experts can be circulated for further contributions. The website will serve as an interactive tool for promoting awareness of marine non-native species to our stakeholders. The new database addition may in the near future be used to augment a global network on occurrence and distribution of alien species. The website intends to be launched by the beginning of 2012 at <http://www.norsas.eu> portal at the latest.

WP 6 Dissemination

NSBWO-Europort 2011 Conference (8 & 9 November 2011):

By the end of June WP6 had informally received commitment of most of our scheduled speakers for the NSBWO-Europort 2011 Conference. From July 1st we were able to send formal invitations, giving details about the conference, abstracts and delivery of papers for the proceedings. In the course of July-August all speakers that we had invited had agreed to present a paper at our conference.

As a token of interest in the conference we received not only a wealth of mails voicing the intent to attend the conference and asking for further information, but also many a request by other entities to be allotted a time slot to speak at our conference. As those did not fall within the remit of our conference as explained below, we politely though decisively declined their offer.

We have programmed the conference strictly to our goals of the conference: to inform the shipping world about what will be expected from them, once the BWM Convention has entered into force (first day of the conference), and what the options are to fulfil the requirements (second day of the conference). To this end we have invited experts that could best accommodate the matter we aim to highlight in the conference. Those are policy makers and policy experts (for the first day, 8/11) and those that are knowledgeable about the different types of Ballast water management systems, as well as those that are experts on their application and use (for the second day, 9/11). By structuring the conference accordingly, we also adhere to the overarching goals of the NSBWO Project as a whole.

External Relations:

Early July project members gave invited talks at different occasions in London.

Both Marcel Veldhuis and Cato ten Hallers-Tjabbes spoke at the JIM Meeting on board HQS Wellington, a joint meeting organised by IMarEST, the Nautical Institute, the Royal Institute of Navigation and the Honourable Company of Master Mariners (4/7/11). Etienne Brutel de la Rivière highlighted the project and its structure at the IMarEST Technical Board Meeting (5/7/11), Cato ten Hallers presented the project's progress at the IMarEST Ballast Water Expert Group and Marcel Veldhuis addressed the Rivière Conference (7/7/11).

23-26 September we attended the Marine Science and Technology Summit 2011 in Busan, Korea, where we presented a paper on functioning and evaluation of BWMS in the wider context of the North Sea Ballast water Opportunity Project. The conference offered ample opportunity to exchange views with experts from the East-Asian world; in the discussions we again paid attention to transparency in particular.



Transparency

At the IMO Meeting MEPC 62, 13-17/7/11, co-ordinator WP6 initiated a discussion on transparency in applications for basic and final approval under guideline G9 (BWM systems that make use of active substances), in which discussion several government representatives took part. The outcome: a plea for total transparency on the non-confidential issues as required in the GESAMP-BWWG Methodology, was not decisive. Follow-up on this issue will be needed in the next MEPC Meeting. During the meeting we explored additional informal contacts that could serve the dissemination of the NSBWO project and the safeguarding of transparency in evaluation of ballast water management and other matters related to the Ballast water Convention.