



ANNUAL REPORT



2012

www.marineboard.eu

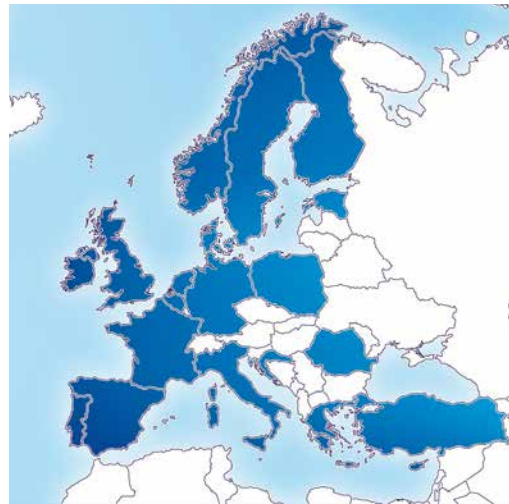


The European Marine Board provides a pan-European platform for its member organizations to develop common priorities, to advance marine research and to bridge the gap between science and policy, in order to meet future marine science challenges and opportunities

European Marine Board

The European Marine Board (established in 1995) facilitates enhanced cooperation between European organizations involved in marine science (research institutes, research funding bodies and nationally-based consortia of third-level institutes) towards development of a common vision on the research priorities and strategies for marine science in Europe. In 2012, the Marine Board represented 35 member organizations from 20 countries.

The Marine Board provides the essential components for transferring knowledge for leadership in European seas and oceans research and technology. Adopting a strategic role, the Marine Board provides a forum within which marine research policy advice to national agencies and to the European Institutions is developed, with the objective of promoting the establishment of the European *Marine* Research Area.
www.marineboard.eu



European Marine Board operates in association with the European Science Foundation (www.esf.org).

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A Selection of Key Events and



EU FP7 SEAS-ERA consultative workshop on the draft *Marine Research Plan for the European Atlantic Sea Basin*

28-29 February 2012, Ostend
(page 24)



3rd Marine Board Forum, *New Technologies for a Blue Future*

18 April 2012, Brussels
(page 34)

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Marine Board Spring 2012 Plenary Meeting

15-16 May 2012, Southampton
(page 15)

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Marine Board – JPI Oceans joint workshop at the European Maritime Day Stakeholder Conference, *Seas and Oceans research in Europe: addressing critical societal and policy challenges*

22 May 2012, Gothenburg
(page 36)



Official launch of Marine Board position papers on chemical pollution and marine microbial diversity at European Maritime Day Stakeholder Conference

22 May 2012, Gothenburg
(pages 31 and 36)

Milestones from the 2011 Calendar

EU FP7 SEAS-ERA workshop, *East Meets West*, organized back to back with Euroscience Open Forum (ESOF) 2012

13 July 2012, Dublin
(page 25)



© Geoffrey O'Sullivan

Marine Board Future Science Brief 1, *Marine Biodiversity: A Science Roadmap for Europe*

September 2012
(page 32)



EU FP7 STAGES project, *Science and Technology Advancing Governance of Good Environmental Status*, kick-off meeting

27-28 September 2012, Brussels
(page 27)



First Conference on Ocean Literacy in Europe

12 October 2012, Bruges
(page 37)



© VLIZ

Marine Board Autumn 2012 Plenary Meeting

16-17 October 2012, Texel
(page 16)



Message from the Chair



It is my pleasure to present the 2012 Marine Board Annual Report. All of the numerous activities, milestones and achievements of another successful year for the Board are detailed inside these pages. I invite you to read on and learn more about the busy year that was 2012.

In the meantime, I would like to focus my message this year on the people and institutions which make up the Marine Board. After all, the Board is a platform of member institutions and its success depends entirely on the intellectual input, energy, commitment and time of those who contribute.

Firstly, my sincere thanks to the UK National Oceanography Centre (NOC) and the Royal Netherlands Institute for Sea Research (NIOZ) for their excellent hosting of two very successful plenary meetings in 2012. I am pleased to report that the Marine Board welcomed two new member organizations during these meetings. The Marine Alliance for Science and Technology Scotland (MASTS) joined at the spring meeting and a consortium of Irish marine universities joined in the autumn. The two new members will provide access to a wide community of marine researchers in Scotland and Ireland respectively and I look forward to their active participation in the Marine Board in the years to come.

2012 was also notable for the significant changes in the Board's Executive Committee (ExCom). Four long-standing members completed their terms: Çolpan Polat-Beken (TÜBITAK, Turkey), Antoine Dosdat (Ifremer, France), Edward Hill (NOC, UK) and Beatriz Morales-Nin (CSIC, Spain). I take this opportunity to sincerely thank each of them for their valuable inputs and energy as Marine Board vice-Chairs. The four new vice-Chairs elected at the spring plenary meeting will reinvigorate the ExCom. These are Alessandro Crise (OGS, Italy), Ricardo Santos (representing FCT, Portugal), Tarmo Soomere (representing Estonian Academy of Sciences) and Jacky Wood (representing NERC, UK). I am grateful to them for taking up the challenge.

Another ExCom member, Carlo Heip, withdrew from work commitments in the latter part of 2012 due to a serious illness. It was with great sadness that we learned that Carlo had passed away in February 2013. His contribution to the Marine Board and to European marine science in general has been immense over the years and his presence and generous character will be sorely missed by all of the Marine Board and the wider research community. A tribute to Carlo can be found on page 8 of this report.

I would like to thank all of the people who generously gave their time and expertise to advance Marine Board strategic objectives in 2012. I especially thank the Chairs and members of our expert working groups, and the speakers at Marine Board events such as the very successful 3rd Marine Board Forum held in April 2012. This voluntary contribution from scientific and policy experts has always been a key factor in the success of the Marine Board. I sincerely hope that we will continue to receive such important inputs in these more difficult economic times.

In 2012, the ongoing process of change at ESF keeps the issue of the future home of the Marine Board firmly on the agenda. I am grateful to the ESF Chief Executive, Martin Hynes, for joining us at our Spring Plenary meeting and for his efforts to advance a solution on the future hosting of the ESF Expert Boards and Committees. Discussion on a potential new legal entity as a vehicle for the Expert Boards began in earnest in late 2012 and ESF has committed to developing an agreed model in 2013. However, the final decision on a future legal status for the Marine Board will be made by our members and that is how it should be.

As always I pay tribute to the members of the Secretariat in Ostend who continue to serve the Board with enthusiasm and efficiency. The team changes have not affected the capacity of the Secretariat to deliver an excellent service. I also express my gratitude to the Government of Flanders, and to VLIZ in particular, for the continued commitment to hosting the Board's Secretariat at the InnovOcean site in Ostend which includes invaluable practical and in-kind support.

We have much to look forward to in 2013, not least the finalization and launch of the Board's *Navigating the Future IV* position paper. I very much look forward to another big year and to working with all of the people and institutions which make the Marine Board a success.

Dr Kostas Nittis
(Hellenic Centre for Marine Research, Greece)



Chair, Marine Board

Executive Scientific Secretary's Report



I am pleased to present the 2012 Marine Board Annual Report on behalf of the Secretariat. In this report, Marine Board activities and outputs during a very busy year are outlined against the traditional Marine Board pillars of Forum, Strategy, Synergy and Voice.

The Board published two science strategy papers in 2012: Position Paper 17, *Marine Microbial Diversity and its Role in Ecosystem Functioning and Climate Change* (May 2012) and Future Science Brief 1, *Marine Biodiversity: A Science Roadmap for Europe* (September 2012). With an ever-growing publications list, the Secretariat is now several years into a process to monitor the impact of Marine Board activities and publications as a means of providing feedback to our members on the value of our strategic outputs. While it is very difficult to achieve a quantitative assessment of impact, this type of qualitative review can be very helpful in determining the effectiveness and influence of specific Marine Board advice and as a means of refining future activities. Further details on these impact reports can be found on pages 38-39.

Another major milestone event in 2012 was the 3rd Marine Board Forum held in Brussels in April 2012 (see pages 17, 34 & 35). The third forum focused on future and emerging "Blue Technologies", placing an emphasis on creating the best environment in Europe to support the next generation of technologies either drawn from, or for use in, the marine environment. The event was a major success, not least because of the vision and drive of the many speakers who participated. Our particular thanks goes to Professor John Delaney of the University of Washington, whose outstanding keynote presentation set the tone for the day.

In 2012 the Secretariat continued to work on behalf of the Marine Board in several Framework Programme projects. Notably, the STAGES project got underway in September. The Marine Board is leading a work package in STAGES on designing a future science-policy interface for the EU Marine Strategy Framework Directive (MSFD). This work provides an opportunity to propose structural mechanisms for the long-term transfer of MSFD-relevant scientific knowledge to policy makers at EU and national level (see page 27).

The EMAR²RES and MARCOM+ marine-maritime partnership projects concluded with the *Fish and Ships* Conference in Brussels in March 2012, at which the

legacy of the two projects was jointly presented. It is clear that "partnership" has still some way to travel, not least because the marine science policy landscape in Europe is continually changing. The emergence of other initiatives and networks, such as JPI Oceans and EuroMarine, illustrates the importance of a strong partnership between the marine science networks in the first instance. As we share many common members, there is a strong opportunity and rationale for working together on many issues.

2012 has also seen some changes in the Marine Board Secretariat. Science Officer, Maud Evrard, left to take up a new position as Senior Policy Officer with Science Europe. Maud served the Board with distinction during her six years with the Secretariat and her contribution and presence in the team is greatly missed. On the positive side, the Secretariat welcomed two new Science Officers: Dr. Kate Larkin (February 2012) and Dr. Nan-Chin Chu (August 2012) (see page 13).

My sincere thanks to all of the Secretariat staff who continue to perform at the highest level. The team spirit in Ostend is strong, mainly because we have good people who understand the role and are driven to serve the Marine Board members. My thanks also to our Chair, Kostas Nittis, who provides excellent advice and leadership at all times, making the job much easier for the Secretariat. We are grateful also to the ExCom members, past and present, for their very active and enthusiastic support and advice.

Despite many changes, the Marine Board continues to stay close to its core values. It is precisely this consistency which is proving the basis for the Board's ongoing success, even in difficult times for many research institutions around Europe. By the 2013 Annual Report, we will have completed a name change to "European Marine Board" and may be looking at a new life outside of ESF. But our *raison d'être* remains strong, our membership is growing, our finances are stable and the pipeline of activities means there is plenty of work ahead. I look forward to a very interesting and active 2013.

Dr Niall McDonough

Executive Scientific Secretary, Marine Board

Carlo Heip, 1945-2013



© VLIZ

During the preparation of this report, the members and Secretariat of the European Marine Board were greatly saddened by the news that our esteemed colleague, Professor Carlo Heip, passed away on Friday 15 February 2013. Representing the Royal Netherlands Institute for Sea Research (NIOZ), Carlo was an active Marine Board delegate and vice-Chair for many years, and a leading contributor to several Marine Board publications. Notably, he was lead author of the most recent Marine Board science policy paper, *Marine Biodiversity: A Science Roadmap for Europe* (September 2012).

Until 2012, Carlo held the position of Director of the Royal Netherlands Institute of Sea Research, NIOZ. He was also Emeritus Professor at the Universities of Gent (Belgium) and Groningen (Netherlands), teaching biological oceanography and estuarine ecology. His research at the University of Gent, where he founded the marine biology research group, centered on the ecology of the meiobenthos. In 1992, he founded the department of Ecosystem Studies at the Netherlands Institute for Ecology (NIOO) in Yerseke, developing a strong research expertise on processes at the interface between biogeochemistry and benthic biology.

During his career Carlo produced more than 360 publications including 138 papers in peer-reviewed journals (Hirsch index 40, over 5000 citations) and edited six books. He was a member of the editorial board of 12 scientific journals and a member of several peer review committees and scientific advisory boards. Among his many leadership roles, Carlo was President of the European Marine Research Stations network, MARS, from 1995 to 2004, and coordinator of many EU Projects including CLAMER (Climate Change and European Marine Ecosystem Research), JEEP (Joint European Estuaries Project), ECOFLAT (Ecology of Tidal Flats), MATURE (Ecology and Biogeochemistry of the Maximum Turbidity Zone), BIOMARE (Implementation of Long Term Large Scale Marine Biodiversity Research in Europe), MARBENA (Infrastructure for Marine Biodiversity Research in Europe) and the FP6 Network of Excellence, MARBEF (Marine Biodiversity and Ecosystem Functioning). Through MARBEF Carlo led a network which made significant advances in coordinated marine biodiversity research in Europe.



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Carlo Heip in the 1970s

Since 2000, Carlo was also active in the Scientific Steering Committee of SCOPE, the DIVERSITAS programme and the Census of Marine Life. He was lately the Chair of Working Group 5, Marine Biodiversity, of the Global Earth Observing system Biodiversity Observation Network, GEO BON.



© Rudy Herman

Diving in Corsica for an FWO-funded project (1981). From left: Rudy Herman, Jan Go-vaere, Eric Coppejans and Carlo Heip

Carlo was an eminent scientist and an inspiring teacher and leader. Above all he was a warm and generous person and is greatly missed by a global network of colleagues and friends.

ABOUT THE MARINE BOARD

Objectives and Approaches

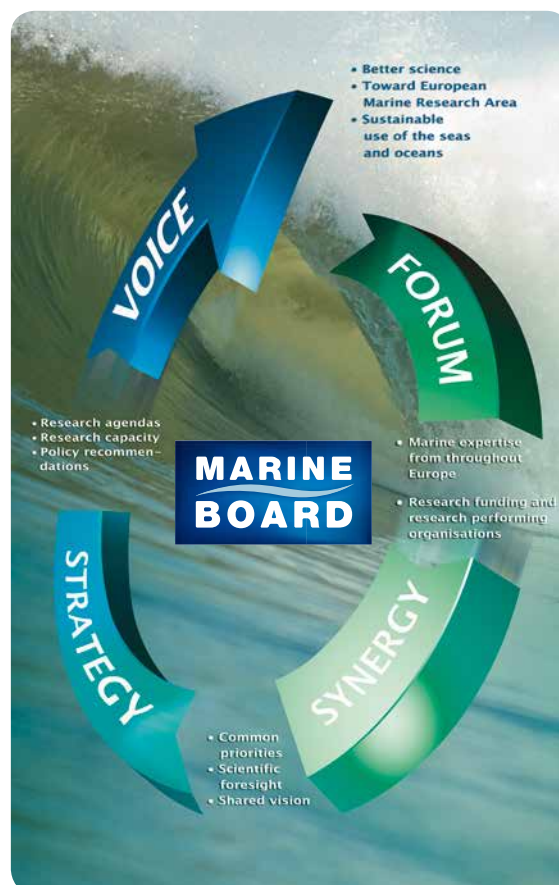
The European Marine Board (or Marine Board) develops common positions on research priorities and strategies for European marine science. It facilitates enhanced cooperation between stakeholders involved in supporting, delivering and using marine research and technology.

Marine Board stakeholders include the Board's members, partner European and international networks, policymakers, strategy developers and programme managers at national and European level as well as the marine and maritime science community at large.

As an independent non-governmental advisory body, the Marine Board provides the essential components for transferring knowledge from the scientific community to decision makers, promoting Europe's leadership in marine research and technology. Adopting a strategic role, the Board provides a unique forum to develop marine research foresight. To do this, the Board initiates state-of-the-art analysis and studies and translates them into clear policy recommendations to national agencies and governments as well as to European institutions.

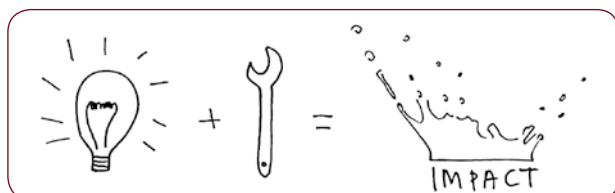
The European Marine Board operates via four principle approaches underpinning the Board's main objective of bridging the gap between science and policy:

- **Forum** – bringing together European marine research stakeholders to share knowledge, identify common priorities, develop common positions and collaborate;
- **Synergy** – fostering European added value to national programmes and infrastructures, and promoting collaboration with international programmes and organizations;
- **Strategy** – identifying scientific challenges and opportunities through analysis and studies, and providing high-level recommendations for European and national research funders and policymakers as well as the scientific community;
- **Voice** – expressing a collective vision of European marine research priorities to meet future science and societal challenges and opportunities.



Instruments

Where the Marine Board identifies a topic of strategic interest as the basis for a new activity, it applies one of a range of instruments to deliver a tailored impact. Strategically targeted at European and national research programme managers, strategy developers, policymakers and the marine research community, Marine Board outputs drive future European and national marine research agendas, programmes and supporting strategies and policies.



Publications

Marine Board strategic reports are written by leading European experts normally working as part of a dedicated Marine Board working group. The activities of working groups are led by a chair and facilitated by the Marine Board Secretariat. Prior to publication, Marine Board reports are subjected to international peer review and final approval by the Marine Board member organizations.

Position Papers are the principle foresight and priority-setting instrument of the Marine Board. Position papers deliver a thorough analysis of the state-of-the-art relevant to the topic at hand, and a roadmap with concrete recommendations for improving the European research effort in this area (see page 30).

Future Science Briefs have a scope similar to position papers but are specifically targeted at a non-specialist audience and are much shorter in length. As with position papers, future science briefs set high-level future research priorities for an area of identified strategic importance at European level (see page 32).

Vision Documents give impetus to an important topic in a rapidly changing policy landscape. They are short and highly visual, written and designed with the primary aim of raising the profile and awareness of a topic.

Biennial Open Forum

The Open Forum brings together a wide range of marine research and development stakeholders to discuss and develop a common position on a topic selected by the Marine Board members. The forum bridges the gap between the scientific community and policymakers and prepares a joint vision and recommendations to advance the issue at hand (see page 34).

Marine Board Panels

Marine Board Panels are networks of national experts focusing on a particular research support tool. They provide a platform for the panel members to exchange best practices, network, and jointly represent their voice at the European level. Marine Board panels organize thematic workshops, produce reports and joint statements. The panels are periodically reviewed by the Marine Board (see page 18).

Conferences

The Marine Board is guardian of the EurOCEAN conference series, jointly organized with the European Commission and normally taking place as official events of the Presidency of the Council of the European Union. EurOCEAN conferences (held since 1998) are now established as “a major forum for the European Commission’s partnership with the marine scientific community” (Máire Geoghegan-Quinn, Commissioner for Research, Innovation and Science, EurOCEAN 2010, Ostend).

In addition to the above-mentioned instruments, the Marine Board employs a number of **other flexible mechanisms**, implemented on an *ad hoc* basis to bridge the gap between science and policy, e.g. policy statements, workshops, briefings, etc. The Marine Board also provides common responses to EU consultations on issues of relevance for seas and oceans research in Europe (see page 33).

Structure and Governance

The European Marine Board is a pan-European partnership of national organizations which are either research funding organizations, RFOs (e.g. research councils or ministries), research performing organizations, RPOs (e.g. national marine research institutes), or nationally-based consortia of third-level institutes (e.g. university consortia). Marine Board activities and the operation of its Secretariat are primarily funded through annual member contributions and external contracts.

In 2012, the Marine Board represented 35 organizations from 20 European countries (a list of Marine Board member organizations and delegates is provided in Annex 1).

Member Organizations and Delegates

The Marine Board’s mixed membership of RPOs, RFOs and national university consortia, ensures its unique capacity to deliver science policy advice on issues of identified strategic importance and to influence European marine research agendas.



Marine Board delegates and invited speakers and guests at the Spring 2012 Plenary Meeting (15-16 May 2012, Southampton)

ABOUT THE MARINE BOARD

Representing the major organizations involved in marine research in Europe, the Board's member organization delegates (i) provide a high-level overview of national science policy priorities, (ii) guarantee a multidisciplinary and high-quality scientific expertise for the Board's activities, and (iii) ensure an uptake of the Board's strategic recommendations at national and European levels.

Marine Board delegates meet twice a year at plenary meetings to share knowledge, to define common priorities, and to agree on activities and outputs which will drive or impact upon European and national marine research agendas. The European Commission Directorates General MARE and Research and Innovation are permanent observers to plenary meetings.

A full list of Marine Board member organizations and delegates is available on the Marine Board website: www.marineboard.eu/about/members, and in Annex 1 of this report.

Executive Committee

Marine Board operations are overseen by the Executive Committee (ExCom), composed of a Chair, six vice-Chairs and the Executive Scientific Secretary who, as the head of the Secretariat, is an *ex officio* ExCom member. ExCom members are elected by the Marine Board members for a three-year period, renewable once for two years upon re-election.

ExCom members and their mandates, as of December 2012:



Kostas Nittis – Chair
Hellenic Centre for Marine
Research (HCMR), Greece
May 2011 - May 2014



Ricardo Santos
Science and Technology
Foundation (FCT), Portugal
May 2012 - May 2015



Alessandro Crise
National Institute of
Oceanography and Experimental
Geophysics (OGS), Italy
May 2012 - May 2015



Tarmo Soomere
Estonian Academy of Sciences,
Estonia
May 2012 - May 2015



Peter Haugan
University of Bergen / Marine
Strategic Board, Norway
May 2011 - May 2014



Jacky Wood
National Environment Research
Council (NERC), United Kingdom
May 2012 - May 2015



Carlo Heip
Royal Netherlands Institute for
Sea Research (NIOZ)
October 2011 - October 2014



Niall McDonough
Marine Board Executive
Scientific Secretary and Head
of Marine Board Secretariat,
ex-officio member

The following ExCom members stepped down in 2012:



Antoine Dosdat
French Research Institute for
Exploration of the Sea (Ifremer),
France
May 2007 - May 2012



Beatriz Morales-Nin
Spanish National Research
Council (CSIC), Spain
May 2009 - May 2012



Edward Hill
National Oceanography Centre
(NOC), United Kingdom
May 2007 - May 2012



Çolpan Polat-Beken
Scientific and Technological
Research Council of Turkey
(TUBITAK), Turkey
May 2009 - May 2012

The ExCom meets normally three times per year to follow up on the implementation of the actions agreed by the Board at plenary meetings, make operational and financial decisions and give strategic guidance to the Board and Secretariat.

Secretariat

The strategic and operational decisions and activities proposed by the Board and ExCom are implemented by the Secretariat. Based at the Marine Board offices in Ostend, Belgium, the Secretariat is composed of five staff members headed by the Marine Board Executive Scientific Secretary, who is also a member of the ExCom.

The Secretariat works to support day-to-day Marine Board operations, advance the Board's objectives and promote its activities and outputs.

Two new staff members joined the Secretariat team in 2012 following the departure of Aurélien Carbonnière in September 2011 and Maud Evrard in June 2012.

Dr Kate Larkin, formerly with the National Oceanography Centre, UK, took up her position as a Science Officer in February. Dr Nan-Chin Chu, formerly with Ifremer, France, joined the team in August 2012 also as a Science Officer. A full list of Marine Board Secretariat officers is available on the website: www.marineboard.eu/about/secretariat and in Annex 10 of this report.



Marine Board Secretariat, from left: Niall McDonough (Executive Scientific Secretary), Dina Eparkhina (Administration and Coordination Officer), Nan-Chin Chu, Jan-Bart Calewaert and Kate Larkin (Science Officers)

2012 IN A NUTSHELL

Marine Board Impact in 2012

- 3rd Marine Board Open Forum showcases some new and emerging blue technologies (p. 34)
- Key priorities for future marine biodiversity research outlined in the 1st Marine Board Future Science Brief (p. 32)
- Marine microbial diversity research recommendations presented in Marine Board Position Paper 17 (p. 31)
- “Mobilization of multi-stakeholder efforts is crucial for success of the European Commission’s Marine Knowledge 2020 initiative”, states Marine Board in its response to the EC consultation (p. 33)
- Marine Alliance for Science and Technology Scotland (MASTS) and the Consortium of Irish Universities are welcomed as new Marine Board members
- 1st European Ocean Literacy Conference, co-organized by the Marine Board Communications Panel, resonates with EU policymakers (p. 37)

Marine Board 2012 in Figures

Member organizations (p. 42)	35
Countries represented (p. 42)	20
Secretariat staff (p. 60)	5
Working groups and panels running (pp. 48-50)	5
Experts involved in working groups and panels (pp. 48-50)	59
New working groups in preparation (p. 16)	2
Meetings organized, including jointly (p. 51)	19
Presentations at meetings (p. 52)	17
Represented at meetings (total)	79
EU Framework Programme (FP) projects running, including one Associated Partnership (p. 22)	6
Total partner organizations in Marine Board EU FP projects, excluding Marine Board	74
Represented at stakeholder projects and panels (p. 28)	15
Publications prepared and published (excluding FP7 deliverables)	4
Publications disseminated (approximately)	3260
Conferences where Marine Board publications were disseminated (p. 53)	17

FORUM

The European Marine Board brings together marine research stakeholders, representatives of the marine science community, funding agencies and national and pan-European science institutions and platforms, to promote and advance seas and oceans research in Europe and globally.

Plenary Meetings

Marine Board plenary meetings, held twice a year in spring and autumn, gather Marine Board member organizations to reflect and agree on topical marine science and technology issues, and propose future strategic actions. During these meetings, Marine Board delegates benefit from interactions with each other, with invited speakers and guests, and with Marine Board observers from the European Commission's Directorates General MARE and Research and Innovation.

Spring Plenary Meeting (15-16 May 2012, Southampton, UK)

The Spring Plenary Meeting was hosted by the UK National Oceanography Centre.

The meeting was attended by 21 Marine Board delegates, six invited speakers and eight guests (see participants list in Annex 2).

Key decisions and highlights of the Spring Plenary included:

Governance

- Following completion of their ExCom terms, Çolpan Polat-Beken (TÜBITAK, Turkey), Beatriz Morales-Nin (CSIC, Spain), Antoine Dosdat (Ifremer, France) and Edward Hill (NOC, UK) stepped down as Marine Board vice-Chairs. Alessandro Crise (OGS, Italy), Ricardo Santos (FCT, Portugal), Tarmo Soomere (EAS, Estonia) and Jacky Wood (NERC, UK) were elected as new vice-Chairs for a three-year term.
- The Board approved a membership application from the Marine Alliance for Science and Technology Scotland (MASTS).
- The Board voted in favour of a change of the Marine Board's formal title; "Marine Board-ESF" becomes the "European Marine Board".

Open Session

The open session of the meeting welcomed representatives of Marine Board stakeholders, observers and partners. The following presentations were given:

- *The UK National Oceanography Centre (NOC)* by Edward Hill, Director;
- *Delivering a vision in marine observing technology* by Gwyn Griffiths, NOC, UK;
- *Marine Knowledge 2020: progress to date and next steps* by Iain Shepherd, European Commission DG MARE;
- *Oceans: our common and global responsibility* by Mitrasen Bhikajee, UNESCO-IOC Deputy Executive Secretary;



Marine Board Spring 2012 Plenary Meeting (15-16 May 2012, Southampton)



Mitrasen Bhikajee, UNESCO-IOC Deputy Executive Secretary, presenting at the Marine Board Spring 2012 Plenary Meeting (15 May 2012, Southampton)

- *Blue Growth: a new approach to promote future growth and jobs from maritime activities* by Jan Maarten de Vet, ECORYS;
- *Marine Board: advancing marine science in Europe and beyond* by Niall McDonough, Marine Board Executive Scientific Secretary.

Autumn Plenary Meeting (16-17 October 2012, Texel, Netherlands)

The Autumn Plenary Meeting was hosted by the Royal Netherlands Institute for Sea Research (NIOZ).



Marine Board Autumn 2012 Plenary Meeting delegates visiting NIOZ research facilities (16 October 2012, Texel)



Colin Brown (NUI Galway, Ireland) presenting the membership application of the Irish University Consortium at the Marine Board Autumn 2012 Plenary Meeting (16 October 2012, Texel)

The meeting was attended by 22 Marine Board delegates, six invited speakers and six Marine Board Communications Panel members (see participants list in Annex 2). Key decisions and highlights of the Autumn Plenary included:

Membership

- The Board approved a membership application from a consortium of Irish marine universities.

Strategic activities

- The Board agreed a response to the European Commission consultation on Marine Knowledge 2020 (see p. 33).
- The Board agreed first preparatory actions for the 4th Marine Board Open Forum to take place in early 2014.
- First preparatory actions were agreed for the new EurOCEAN conference to take place in autumn 2014.
- It was decided to investigate two new activities on: deep-sea research and underwater archaeology.

Open Session

The open session of the meeting welcomed Marine Board observers and partners. The following presentations were given:

- *NIOZ & Netherlands Marine Research* by Henk Brinkhuis, NIOZ Director;
- *The Tara Oceans Expedition* by Eric Karsenti, European Molecular Biology Laboratory (EMBL), Scientific Director of the Tara Oceans Expedition;
- *Report of the European Commission Expert Group on Marine Research Infrastructures* by Waddah Saab, EC DG Research and Innovation, Expert Group facilitator.

The Marine Board Communications Panel (MBCP) organized a special session on science communication at the Marine Board Autumn 2012 Plenary Meeting. The following presentations were given:

- *Update on activities of MBCP* by Jan Seys, Flanders Marine Institute, Belgium and MBCP Chair;
- *To inspire a new generation – Stop being a scientist!* by Dan Brinkhuis, Science Media, Netherlands.

Marine Board Biennial Forum

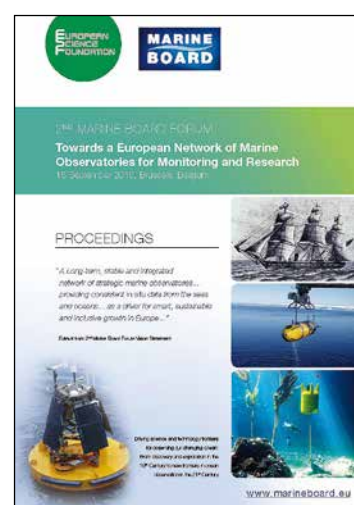
The Marine Board Biennial Forum provides a platform for Marine Board members, partner organizations, individual scientists and European and national policymakers to interact on a particular topic or theme of strategic importance for European marine science.

For each selected topic or theme, the Marine Board Forum aims to:

- Provide a focal meeting point for discussion among scientists, policymakers and other relevant stakeholders;
- Facilitate the exchange of information and ideas and agree a common position;
- Enhance collaboration and reduce fragmentation and/or duplication in the European research effort.

The main messages, discussions and decisions from Marine Board fora are recorded and published as proceedings. Presentations and outputs of the fora are available on: www.marineboard.eu/fora.

In 2012, Marine Board held its 3rd Forum, focusing on how new and emerging marine technologies can contribute to address European socio-economic challenges. The event is covered in 'Voice' section of this report on page 34.



Proceedings of the 2nd Marine Board Forum, *Towards a European Network of Marine Observatories for Monitoring and Research* (16 September 2010, Brussels)



Kostas Nittis, Marine Board Chair, opening the 3rd Marine Board Open Forum, *New Technologies for a Blue Future* (18 April 2012, Brussels), featured on page 34 of this report

Marine Board Panels

European Marine Board Panels are established on an open-end basis to address operational issues in areas where the panel members, and by extension their institutions, benefit from interacting with each other and with the Marine Board.

In 2012, Marine Board panels included:

- Marine Board Communications Panel (MBCP); and
- European Scientific Diving Panel (ESDP).

Marine Board Communications Panel (MBCP)

Established in 2002, MBCP brings together professional science communicators from a number of Marine Board member organizations.

Marine Board Communications Panel has four M-B-C-P objectives:

- 1** Mutually assist its members in promoting and communicating marine science across Europe and exchanging ideas on communication methods and best practices;
- 2** Be (re)present(ed) at major European (marine) science events;
- 3** Communicate Marine Board products at the national level through press releases and twinning activities; and
- 4** Popularize marine science by promoting ocean literacy.

In 2012, the MBCP included 18 members from 14 countries (see membership list in Annex 4). The panel is chaired by Jan Seys of the Flanders Marine institute (VLIZ), Belgium, and its operation is facilitated by the Marine Board Secretariat.



© VLIZ

Participants at the First Conference on Ocean Literacy in Europe (12 October 2012, Bruges), co-organized by the Marine Board Communications Panel

MBCP in 2012

Marine Board Review

In early 2012, the panel was reviewed by a Marine Board panels review committee, based on the MBCP self-evaluation report and an interview with the MBCP chair, Jan Seys. The review acknowledged the panel's strategic importance for the Marine Board. MBCP was invited to continue as a full Marine Board Panel at least until the next periodic review in 2016.

Meeting and Activities

- 24 February 2012: Mike Moore (Chair of Marine Board working group on *Oceans and Human Health* / Plymouth Marine Laboratory and European Centre for Environment and Human Health, UK) presented the activities of the Marine Board working group on *Oceans and Human Health* during his keynote speech at the VLIZ Young Marine Scientists Day in Bruges, Belgium. This invitation by VLIZ was triggered by the ongoing efforts to twin Marine Board strategic activities with national events.
- 19-20 April 2012: The MBCP spring meeting was held in Bruges, Belgium. Three new/replaced members from CIMAR (Portugal), HCMR (Greece), and Marine Institute (Ireland) gave presentations on their institutes and science communication practices.
- 12 July 2012: MBCP organized a session, *Atlantic Ocean Literacy: a Grand Challenge for Marine Science Communication and Education*, during the Euroscience Open Forum (ESOF) in Dublin. The session was coordinated by Albert Gerdes (MBCP/MARUM, Germany), and included presentations by Jan Seys (MBCP Chair/VLIZ, Belgium), Evy Copejans (EMSEA/VLIZ, Belgium), Ana Norona (Ciencia Viva, Portugal) and Peter Tuddenham (College of Exploration, USA). This event, bringing together European and North American experts in marine science communication and education, delivered valuable recommendations for future trans-Atlantic cooperation in the area of ocean literacy. The panel is planning to submit a proposal for an event or workshop at ESOF 2014 in Copenhagen.
- 12 October 2012: MBCP co-organized the First Conference on Ocean Literacy in Europe in Bruges, Belgium. The conference was attended by 110 participants from 15 countries. The programme included high-profile speakers from European and international organizations with a strong interest in ocean education and marine science communication, including Wendy Watson-Wright, Executive Secretary of the Intergovernmental Oceanographic Commission and Assistant Director-General of UNESCO and Waddah Saab of the European Commission DG Research and Innovation. This event highlighted a crucial need for public support towards achieving a sustainable maritime economy and knowledge-based society.



Professor Mike Moore (chair of Marine Board working group on *Oceans and Human Health* / Plymouth Marine Laboratory and European Centre for Environment and Human Health, UK) presented the activities of the Marine Board working group on *Oceans and Human Health* during his keynote speech at the VLIZ Young Marine Scientists Day (24 February 2012, Bruges, Belgium)

The conference is also covered in the 'Voice' section of this report on page 37. Further information on the conference is available at: www.emsea.eu/conference-2012-bruges.

- 15-16 October 2012: MBCP autumn meeting was held back-to-back with the Marine Board plenary meeting in Texel, Netherlands. Dan Brinkhuis of Science Media (Netherlands) was invited to this meeting to share his experience in science documentary film making. Furthermore, the MBCP organized a special session



Members of Marine Board Communications Panel at their meeting in Texel on 15-16 October 2012, from left: Kim Marshall-Brown (NOC, UK), Nienke Bloksma (NIOZ, Netherlands), Jan Seys (VLIZ, Belgium), Kjartan Maestad (IMR, Norway), Nan-Chin Chu (Marine Board Secretariat) and Lisa Fitzpatrick (Irish Marine Institute)

dedicated to science communication at the Marine Board plenary meeting, with presentations by Dan Brinkhuis and Jan Seys (MBCP chair).

Further information on the MBCP is available on the Marine Board website: www.marineboard.eu/MBCP

European Scientific Diving Panel (ESDP)



The European Scientific Diving Panel (ESDP) acts as a European platform to improve networking and exchange of knowledge and best practice in the field of scientific diving, promoting diving as an important marine research tool. In 2012, the panel included seven core members from seven countries (see membership list in Annex 4). The panel is facilitated by the Marine Board Secretariat.

ESDP aims to:

- Promote best practice in scientific diving in Europe for improved research, observation and monitoring in the coastal environment;
- Initiate and develop synergies with other operational scientific networks, exchanging knowledge and facilitating a pan-European dialogue;
- Promote links with interdisciplinary research and industry; and
- Promote international collaboration.

ESDP in 2012

Marine Board Review

In early 2012, the panel was reviewed by the Marine Board panel review committee, based on the panel's self-evaluation report and an interview with panel member, Alain Norro (MUMM, Belgium). Further to the review, the ESDP was invited to continue as a full Marine Board panel until the next periodic review in 2016. Specific recommendations were made by the review committee to stimulate consolidation and growth of the panel, with a particular focus on widening its membership and securing external funding.

ESDP Chair Elections

In October 2012, Martin Sayer (NERC/SAMS, UK) was elected as the new panel chair, to replace Jean-Pierre Féral (CNRS/IMBE, France), who had served four years in this position.

Meetings and Activities

- 3 February 2012, 7th ESDP meeting, Brussels: core members and an observer from the University of Stuttgart (Germany), attended with participants providing national updates on scientific diving regulation.
- 4 July 2012, 8th ESDP meeting, Brussels: the meeting included a discussion on the Marine Board review recommendations and ways forward for ESDP including the aim to widen the panel's membership. Başak Kisakürek of COST, was invited to support the discussions regarding developing a COST Action proposal on scientific diving.
- Summer-Autumn 2012: ESDP core members contributed to articles on scientific diving techniques and diving computers in the Underwater Technology Society journal Volume 30 (4) and Volume 31 (1).
- 28 September 2012: ESDP core members led the submission of a proposal for a new COST Action *Towards a European network of diving-based coastal observatories* (ENDCO). The proposal is designed to promote networking and integration activities for scientific diving as a key tool for coastal marine research, monitoring and ecosystem-based management.
- September-October 2012: the Marine Board Secretariat initiated a survey of current and aspiring ESDP members to assess best practice and lessons learned for establishing National Committees for Scientific Diving across Europe.
- 31 October 2012, 9th ESDP meeting, Brussels: chair elections took place and Martin Sayer (NERC/SAMS, UK) was appointed as the new ESDP Chair, following a four-year term by Jean-Pierre Féral (CNRS/IMBE, France).

Further information on the panel is available on the Marine Board website: www.marineboard.eu/ESDP; and on the dedicated ESDP website: www.scientific-diving.eu



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Use of dye to trace the water circulation around an underwater volcanic gas vent in Panarea Island, Southern Tyrrhenian Sea, Italy. Diver: R. Malatesta



In 2012 ESDP core members contributed to articles on scientific diving techniques and diving computers in the Underwater Technology Society journal Volume 30 (4) and Volume 31 (1)

SYNERGY

The European Marine Board works to enhance interactions and collaborations among European marine and maritime research stakeholders, exchange knowledge and expertise, promote joint identification of priorities and shared use of infrastructures, and avoid duplication of efforts.

Framework Programme Projects

EMAR²RES: Cooperation between the Communities of European MARine and MARitime REsearch and Science

Type: EC FP7 CSA
Duration: 30 months (Nov. 2009-May 2012)
Budget: € 0.5M
Consortium: 5 pan-European partners
Coordinator: CESA
Website: www.emar2res.eu
Marine Board was a Work Package Leader



EMAR²RES involved the European associations representing major waterborne R&D stakeholders and the European Marine Board, as a key representative of the marine research community. The project aimed to identify common research needs to develop long-term cooperation between the marine and maritime (transport) research communities.

In EMAR²RES, the Marine Board worked to bridge the gap between marine and maritime science communities via topical workshops on areas of common interest and concern. Furthermore, the Board's activities in this project contributed to the broader aim of fostering marine and maritime stakeholder dialogue.

EMAR²RES in 2012: Major Marine Board Outputs



Dolphins playing near oil ring

- Together with project partners from CESA and WEGEMT, the Marine Board contributed to the final EMAR²RES project deliverable, *Report on a proposed structure of cooperation*.
- On 22 March 2012, EMAR²RES held a joint conference with a related partnership project, MARCOM+, entitled *Fish and Ships* (also see p. 23). Marine Board Executive Scientific Secretary, Niall McDonough, chaired a session on the EMAR²RES marine and maritime research cooperation.
- On 23 March 2012, an EMAR²RES Expert Group on Underwater Noise was established. The group is self sustaining and designed to remain active beyond the project lifetime.

MARCOM+: Towards an Integrated Marine and Maritime Science Community

Type: EC FP7 CSA
Duration: 28 months (Jan. 2010-April 2012)
Budget: € 1M
Consortium: 10 partners
Coordinator: ICES
Website: www.marinemaritimescienceforum.eu
Marine Board was a Work Package Leader



MARCOM+ brought together representatives of marine and maritime science communities to test mechanisms for a European marine and maritime partnership. In MARCOM+, the Marine Board delivered strategic actions to advance progress towards a sustainable dialogue between relevant marine and maritime stakeholders.

MARCOM+ in 2012: Major Marine Board Outputs

- As task leader, the Marine Board Secretariat delivered the final report on the potential structure for a pan-European marine-maritime research cooperation. This report reflected that the European marine science policy landscape has widened, becoming a complex network of organizational stakeholders and pan-European platforms. A possible mechanism for effective science-policy cooperation between marine and maritime (industry) research stakeholders, should therefore be flexible and light. Cooperation on particular topics may be *ad hoc*, building on the existing stakeholder links strengthened through European collaboration, for example, within the EMAR²RES and MARCOM+ projects.
- MARCOM+ together with another partnership project, EMAR²RES (see p. 22), held the final project conference, entitled *Fish and Ships*, on 22 March 2012, Brussels. The conference presented the joint outputs and successes of these two FP7 marine-maritime research cooperation projects.



Fish and Ships conference panel discussion with speakers, from left: Adi Kellermann (ICES), Arnoldas Milukas (EC DG Research and Innovation), Francesco De Lorenzo (Fincantieri, Italy), Paulo Nunes (CIESM), Torgeir Edvardsen (SINTEF, Norway), Atilla Incecik (Strathclyde University, UK), Liam Breslin (EC DG Research and Innovation) and Willem Laros (CESA)

SEAS-ERA: Towards Integrated Marine Research Strategy and Programmes

Type: EC FP7 ERA-NET
 Duration: 48 months (May 2010-April 2014)
 Budget: € 2M
 Consortium: 21 partners in 18 countries
 Coordinator: MINECO, Spain
 Website: www.seas-era.eu
 Marine Board is a Work Package Leader



The SEAS-ERA project works to foster cooperation and integration between national marine research funding agencies in Europe to promote the European Research Area for marine science and technology.

The main objectives of the project are to:

- Contribute to the setting up of a common *European Marine and Maritime Research Agenda*;
- Reduce imbalances among regions through human capacity building;
- Foster synergies at both regional and pan-European levels;
- Propose a plan for a better and sustainable use of the existing Marine Research Infrastructures; and
- Enhance public awareness of marine and maritime scientific and policy issues in Europe.

The Marine Board is leading and supporting a range of strategic activities in SEAS-ERA.

SEAS-ERA in 2012: Major Marine Board Outputs

Throughout 2012, the Marine Board co-organized, together with the Irish Marine Institute, three consultative workshops to discuss the draft *Marine Research Plan for the European Atlantic Sea Basin*, delivered in 2011. The workshops targeted three different categories of stakeholders to collect feedback on this discussion document, specifically, (i) science, (ii) governance and (iii) trans-Atlantic funding agencies.

- Science Consultative Workshop (28-29 February 2012, Ostend, Belgium), jointly organized by the Irish Marine Institute and the Marine Board;
- Governance Consultative Workshop (23-24 April 2012, Lisbon, Portugal), jointly organized by the Irish Marine Institute, the Marine Board and the Conference of Peripheral Maritime Regions - Atlantic Arc Commission (CPMR-AAC); and



Reports of three SEAS-ERA consultative workshops co-organized by the Marine Board in 2012

- *East Meets West* Consultative Workshop (13 July 2012, Dublin, Ireland), organized by the Irish Marine Institute, was held back-to-back with the Euroscience Open Forum (ESOF) 2012. This workshop explored opportunities for collaboration between European Atlantic Research Funding Organizations (RFOs) and their North American counterparts from USA and Canada. The workshop discussed barriers to trans-Atlantic marine research cooperation and identified specific areas where improved collaboration could be achieved, possibly through the SEAS-ERA project.

The presentations and reports of these three SEAS-ERA consultative workshops are available on the SEAS-ERA website: www.seas-era.eu/np4/34/

In 2012, the European Commission DG MARE showed a strong interest in the draft *Marine Research Plan for the European Atlantic Sea Basin* as a potential support to the European Union Strategy for the Atlantic (EUSA). With the support of the SEAS-ERA Atlantic partners, Geoffrey O'Sullivan (Irish Marine Institute) adapted the plan in order to make it more directly applicable to the EUSA, and presented it at the first EUSA workshop in the Azores, on 21 September 2012. The Marine Board was represented at the second EUSA workshop in Brest on 29-30 October.

In October 2012, the Marine Board began preparations for the 2nd SEAS-ERA Strategic Forum to be held in Brussels on 6 February 2013. The main objective of this Forum is to present for the first time the SEAS-ERA regional *Strategic Research Agendas* for three sea basins: Atlantic, Mediterranean and Black Sea.



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EU FP7 SEAS-ERA workshop *East Meets West* (13 July 2012, Dublin) took place back to back with ESOF 2012



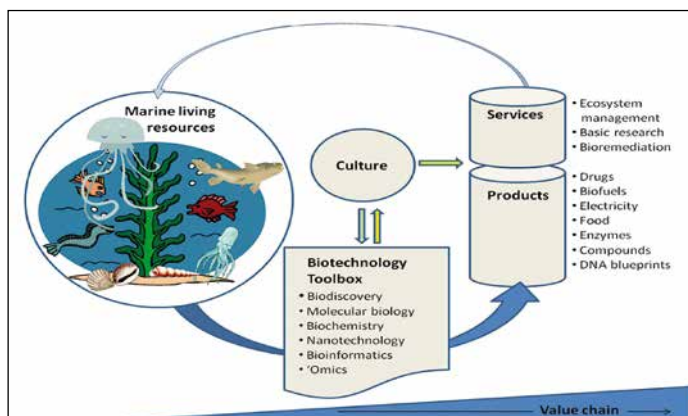
Geoffrey O'Sullivan (Irish Marine Institute / SEAS-ERA partner) presenting the draft *SEAS-ERA Atlantic Research Agenda* at the Science Consultative Workshop co-organized by the Marine Board and the Irish Marine Institute (28 February 2012, Ostend)

MarineBiotech: ERA-NET Preparatory Action in Marine Biotechnology

Type: EC FP7 SA (Coordinating)
 Duration: 18 months (Oct. 2011–March 2013)
 Budget: € 1M
 Consortium: 11 partners from 9 countries
 Coordinator: RCN, Norway
 Website: www.marinebiotech.eu
 Marine Board role: Work Package Leader



Marine ecosystems are a unique environment with an enormous potential to contribute to environmental and human health and to the sustainable supply of food, energy and biomaterials. Marine biotechnology is increasingly becoming central to delivering these benefits from the sea. In the European context, marine biotechnology can and should make an important contribution towards meeting the ‘Grand Challenges’ for the 21st century and the development of greener and smarter economies - central components of the Europe 2020 Strategy.



A sound strategy and concerted coordination of relevant national and regional RTDI programmes are urgently needed in Europe to allow this potential to be realized. The main goal of the MarineBiotech project is to reduce current fragmentation and duplication within the European marine biotechnology research landscape, and pave the way for common programmes and cooperation. This will include the provision and utilization of common research infrastructures through a future ERA-NET in marine biotechnology.

Examples of products and services developed by technological applications using marine bioresources. Adapted from the Marine Board Position Paper 15 *Marine Biotechnology: A Vision and Strategy for Europe* (September 2010)

MarineBiotech in 2012: Major Marine Board Outputs

- Landscape profiling: the Marine Board is leading an initiative in *Mapping the Marine Biotechnology RTDI Landscape in Europe*. With in-depth study and the help of experts from around Europe, this has resulted in an extensive set of country profiles providing summary information on the main policies, programmes and research efforts in European marine biotechnology. The mapping will be completed by the end of the project in March 2013. The results to date are already available on the project website.
- Scoping a future ERA-NET: Based on the landscape profiling work, the Marine Board Secretariat played a central role in developing initial proposals for cooperation between European national funding agencies which could form the basis for a future ERA-NET on marine biotechnology.
- Final conference: The Marine Board Secretariat and VLIZ (Belgium), as project partners, began preparations for the final project conference to take place in Brussels on 11 and 12 March 2013. The conference, entitled *Challenges and Opportunities for Marine Biotechnology in Europe*, is designed to bring together key stakeholders to discuss progress and future perspectives for European marine biotechnology and to inform future policy and coordination efforts. Further information about the conference is available on the project website: www.marinebiotech.eu/conference

STAGES: Science and Technology Advancing Governance of Good Environmental Status

Type: EC FP7 CSA
Duration: 24 months (Sept. 2012 – Aug. 2014)
Budget: € 1M
Consortium: 8 national and pan-European partners
Coordinator: CETMAR, Spain
Website: www.stagesproject.eu
Marine Board is a Work Package Leader



The STAGES project supports the objectives of the EU Marine Strategy Framework Directive (MSFD) towards achieving a Good Environmental Status (GES) in European marine waters by 2020. The project will work to bridge the marine science-policy gap and improve the current scientific knowledge base to allow Member States to achieve GES.

This two-year project, started in September 2012, will pursue the following objectives:

- Identify, extract and synthesize the knowledge generated through EU and national research relating to the MSFD, and make this information widely accessible to policymakers and MSFD stakeholders;
- Establish the further research needs necessary to improve the scientific knowledge underpinning implementation of the MSFD; and
- Provide pragmatic and ready-to-use recommendations on the establishment of a European science-policy platform to support GES research and MSFD implementation.

In STAGES, the Marine Board leads a work package on *Building a Science-Policy Interface to support MSFD implementation*.

STAGES in 2012: Major Marine Board Outputs

- 27-28 September 2012, Brussels: The STAGES kick-off meeting brought together the project partners, the Advisory Board members and representatives from the European Commission DG Research and Innovation and DG Environment.
- Work began on the development of the inventory of MSFD stakeholder organizations and communication outputs. The Marine Board contributed to this task which was led by CETMAR.
- The Marine Board initiated a review of science-policy interface best practice. This review will feed into the project's stakeholder consultation in 2013.
- Throughout the year, the Marine Board Secretariat fostered collaborations between related European projects, namely SPIRAL, PERSEUS, PISCES, JPI CSA Oceans. In addition, the Marine Board was represented at a number of science-policy interface meetings.

EUROFLEETS: Towards an Alliance of European Research Fleets

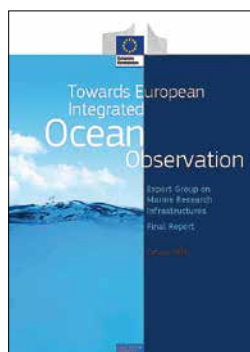
Type: EC FP7 I3
 Duration: 48 months (Sept. 2009–Aug. 2013)
 Budget: € 7.2M
 Consortium: 24 partners in 16 countries
 Coordinator: Ifremer, France
 Website: www.eurofleets.eu
 Marine Board is an Associated Partner



EUROFLEETS aims to define a common strategic vision for European research fleets and associated heavy equipment. By bringing together marine exploration fleet owners, EUROFLEETS is enhancing coordination between fleets and promoting the cost-effective use of their facilities. EUROFLEETS was developed directly from the recommendations of Marine Board Position Paper 10, *Ocean Research Fleets - Towards a Common Strategy and Enhanced Use* (March 2007), in accordance with the EurOCEAN 2007 Aberdeen Declaration (June 2007), developments within the EU FP6 ERA-NET, MarinERA, and the European Research Vessels Operators, ERVO.

In EUROFLEETS, the Marine Board provides advice and support on scientific and strategic matters, e.g. identification of scientific experts, maintaining interactions with other marine and maritime research organizations and disseminating project information and outputs.

Other Initiatives and Networks



Marine Board chair, members and Secretariat were amongst the contributors to the final report of the European Commission Expert Group on Marine Research Infrastructures. The report provides recommendations for future governance, funding and data management of European Marine Research Infrastructure initiatives.

The Marine Board is represented on scientific panels or acts as an observer in a number of relevant European initiatives and platforms. Furthermore, in addition to being partner in several European Commission projects mentioned above, the Marine Board is involved in other FP7 projects as a non-partner, increasing the synergy among related pan-European initiatives.

In 2012, the Marine Board contributed to the following initiatives and networks:

- BONUS** – as Advisory Board member
www.bonusportal.org
- ECORD** European Consortium for Ocean Drilling Research (ECORD Council) – as observer
www.ecord.org
- EMODnet** European Marine Observation and Data Network (EMODNET) Biological Lot, coordinated by VLIZ, Belgium - as member of Coordination Board <http://bio.emodnet.eu>
- European Commission Expert Group on Marine Research Infrastructures - as observer
<https://webgate.ec.europa.eu/maritimeforum/category/401>
- Intergovernmental Oceanographic Commission (IOC) of UNESCO
 Niall McDonough was a member of the *ad hoc* Advisory Group for the IOC Ocean Sciences Section, IOC Oceans (Feb. - June 2012)
www.unesco.org/new/en/natural-sciences/ioc-oceans/sections-and-programmes/ocean-sciences/

SYNERGY: Reducing fragmentation in European marine research



Joint Programming Initiative *Healthy and Productive Seas and Oceans* (JPI Oceans) - Niall McDonough is an elected member of the Strategic Advisory Board
www.jpi-oceans.eu



European Fisheries and Aquaculture Research Organisation (EFARO) – as observer
www.efaro.eu



Waterborne Technology Platform – as observer
www.waterborne-tp.org

In 2012, the Marine Board contributed to the following European Commission projects in an advisory capacity:



HERMIONE, *Hotspot Ecosystem Research and Man's Impact on European Seas*, EU FP7 IP (April 2009-March 2012), as member of the Science Policy Panel
www.eu-hermione.net



MEECE, *Marine Ecosystem Evolution in a Changing Environment*, EU FP7 IP (Sept.2008-Aug.2012), as member of the User Advisory Group
www.meece.eu



EuroMarine, *Integration of European Research Networks of Excellence*, EU FP7 CSA (Feb. 2011-Jan. 2013), as member of the Advisory Board
www.euromarineconsortium.eu



EMBRC
EUROPEAN
MARINE
BIOLOGICAL
RESOURCE
CENTRE

EMBRC, *European Marine Biological Resource Centre* (Preparatory Phase, Feb. 2011-Jan. 2014), as a member of the Reference User Group
www.embrc.eu



MERIL
MAPPING OF THE EUROPEAN
RESEARCH INFRASTRUCTURE
LANDSCAPE

MERIL, *Mapping of European Research Infrastructure Landscape*, EU FP7 SA (Oct. 2010-Sept. 2012), providing input on marine research infrastructures via the project coordinator – European Science Foundation. www.meril.eu



PERSEUS, *Policy-orientated marine Environmental Research for the Southern European Seas*, EU FP7 SICA (Jan. 2012-Dec. 2015), Niall McDonough is a member of the Advisory Board www.perseus-net.eu



MARLISCO, *MARine Litter in European Seas: Social Awareness and CO-Responsibility*, EU FP7 SIS (June 2012-May 2015), as a member of the Advisory Board www.marlisco.eu



Secretariat of the Joint Programming Initiative *Healthy and Productive Seas and Oceans* (JPI Oceans) visit to the European Marine Board offices at the InnovOcean site in Ostend (also housing the UNESCO IOC project office for IODE and VLIZ, Belgium) on 25 June 2012. From left: Niall McDonough and Kate Larkin (Marine Board), Ward Appeltans (IOC/IODE), Tina Mertens (VLIZ), Agnes Aune (RCN /JPI Oceans), Fien De Raedemaeker (VLIZ), Andre Cattrijsse (VLIZ), Berit Johnne, Kathrine Angell-Hansen, Pier Francesco Moretti, Willem De Moor, Teodoro Ramirez, Erik Sandquist and Florence Coroner (JPI Oceans)

STRATEGY

The European Marine Board delivers its strategic vision and science foresight through high-level publications and statements, targeted both at the research community and policymakers.

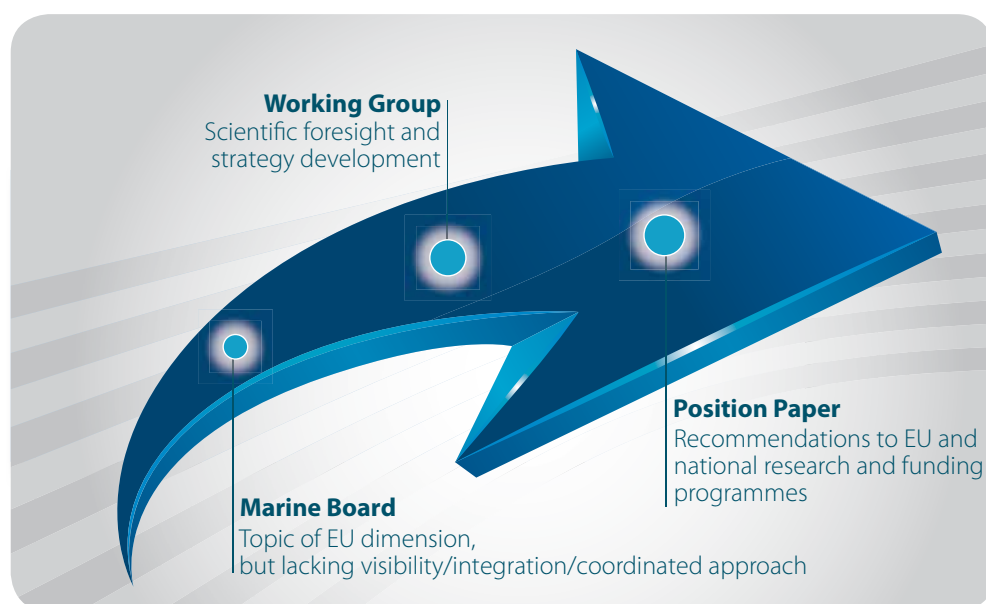
- Highlighting urgent marine science issues, challenges and opportunities and identifying the corresponding research priorities and policy needs necessary to address them;
- Providing high-level recommendations ready to be taken up by programme developers and policymakers; and
- Proposing a vision and strategy for the topic at hand to guide the scientific community and EU decision makers towards delivering the goals of the European Research Area through increased excellence, coordination and competitiveness in European science.

A full list of Marine Board publications is provided in Annex 9. All publications are available for download at: www.marineboard.eu/publications

Position Papers

Position papers are the Marine Board's primary science foresight and priority-setting instrument. They are prepared by working groups of international experts convened by the Marine Board to address matters of strategic importance for marine science and technology as well as society at large.

Marine Board position papers directly impact European research agendas, bridging the gap between scientific priorities and policy requirements. Marine Board position papers have influenced European Commission Framework Programme work programmes and calls as well as national marine research programmes and initiatives.



Position Paper 17: Marine Microbial Diversity and its role in Ecosystem Functioning and Environmental Change, May 2012

Working Group Acronym: WG MICROCEAN

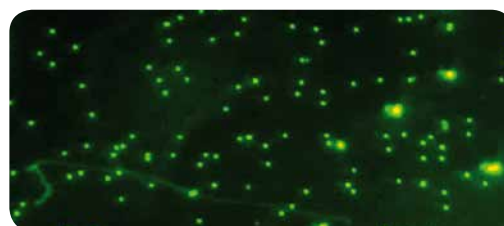
WG Membership: 11 experts from 9 countries

WG Chair: Frank Oliver Glöckner (MPI-Bremen, Germany)

Duration: March 2010-May 2012

Output: Marine Board Position Paper 17 *Marine Microbial Diversity and its role in Ecosystem Functioning and Environmental Change* (May 2012)

This Marine Board position paper addresses the lack of knowledge and understanding regarding the key role that marine microorganisms play in all global cycles of matter and energy. Representing the most important biological group on Earth, marine microorganisms help regulate Earth's climate, they produce oxygen and organic matter required to sustain life and facilitate the turnover of key biological elements. Furthermore, marine microbes can provide a largely untapped repository of genetic information, bioactive compounds and biomaterials for use in medical treatments and industrial applications. Yet, despite the striking research evidence, marine microbial diversity research in Europe suffers from a worrying lack of coordination and resources.



© Ruth-Ann Sandaa

With about one billion bacterial cells and ten billion viral particles per litre of seawater, bacteria and viruses are by far the most common biological entities in the marine environment. Extract from Marine Board Position Paper 17

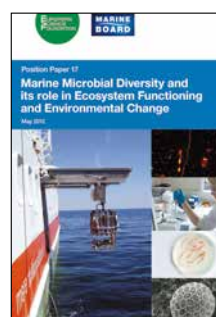
In this position paper, the Marine Board expert working group identified a set of key societal and scientific questions and provided high-level recommendations on future research priorities and needs.

The high-level position paper recommendations include:

- Establish a coordinated pan-European research programme on marine microbiology;
- Create a European repository for cultivated collections and a reference library;
- Create an integrated, multidisciplinary European centre for marine data and management and analysis; and
- Promote interest in marine microbial research and improve training and education.

The position paper was launched at the European Maritime Day 2012 Stakeholder Conference in Gothenburg on 22 May 2012. The report was presented to Waddah Saab of the European Commission DG Research and Innovation, and Rudy Herman, chair of JPI Oceans, as representatives of two of the main stakeholders of the Marine Board strategic outputs.

Marine Board Position Paper 17 is available for download at: www.marineboard.eu/publications



© EC / Dick Gillberg

Launch of Marine Board Position Paper 17, *Marine Microbial Diversity and its role in Ecosystem Functioning and Environmental Change*, at the European Maritime Day 2012 Stakeholder Conference (22 May 2012, Gothenburg). Featured, from the left: Niall McDonough (Marine Board Executive Scientific Secretary), Jan-Bart Calewaert (Marine Board), Waddah Saab (European Commission DG Research and Innovation), Rudy Herman (chair of JPI Oceans) and Frank Oliver Glöckner (position paper working group chair / MPI and Jacobs University, Germany)

Running Working Groups

In 2012, two further expert working groups were preparing position papers to be published in spring 2013. These working groups focus on:

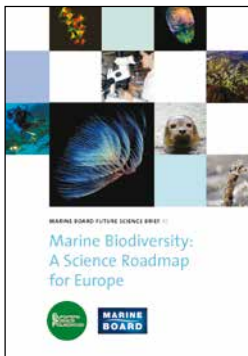
- *Oceans and Human Health; and*
- *Marine Protected Areas.*

A list of working group members is provided in Annex 3.

Future Science Briefs

In 2012, Marine Board introduced a new type of publication, the Future Science Brief (FSB). FSBs raise the profile and inform the European research agenda on topics of identified strategic importance. Designed to be understood by a non-expert reader, FSBs are much shorter than position papers. As with position papers, FSBs are subject to external peer-review and approval by the Marine Board member organizations.

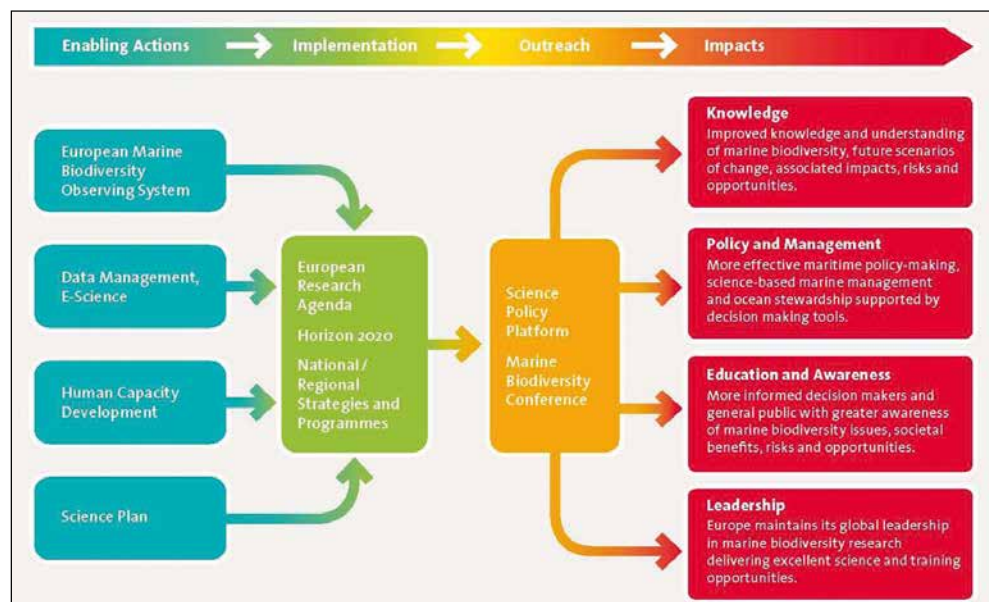
Future Science Brief 1: *Marine Biodiversity: A Science Roadmap for Europe*, September 2012



This first Marine Board future science brief examines recent achievements and, more importantly, the gaps which remain in the knowledge and understanding of marine biodiversity.

The publication (lead author Carlo Heip, NIOZ, Netherlands) reviews the recent progress in advancing our knowledge and understanding of marine biodiversity and ecosystem functioning and in setting policy objectives to protect and restore global biodiversity. However, it also draws attention to the substantial remaining gaps in marine biodiversity knowledge, observation and coordination. These gaps, coupled with inadequate management and implementation actions, mean that Europe is struggling to meet EU and international biodiversity targets. The document sets out a European roadmap for future marine biodiversity and related research including both high-level research priorities, and recommendations for supporting actions.

Schematic roadmap for Marine Biodiversity science in Europe. To achieve the impacts on the right, it is necessary to put in place key strategic enabling actions and significant financial support for future biodiversity research at national and EU level. Science outreach, communication and appropriate science policy interfaces will also be essential. Extract from Marine Board Future Science Brief 1, *Marine Biodiversity: A Science Roadmap for Europe*



Policy Statements

The European marine science and science-policy landscape is continually changing and developing. This calls for ongoing awareness by the European Marine Board to the growing number of initiatives and policy developments, and for the flexibility and ability to make targeted interactions and responses, when necessary.

Marine Board Response to the EC Consultation: *Marine Knowledge 2020: From seabed mapping to ocean forecasting*, December 2011

In 2012, the Marine Board issued a response to the EC Consultation on Marine Knowledge 2020, a European Union initiative bringing together marine data from different sources through the prototype websites of the European Marine Observation and Data Network (EMODNET). Marine Knowledge 2020 aims to help various marine data stakeholders to find required information and make effective use of it to develop new products and services. The EC consultation looked for stakeholders' opinions on options for future governance of this initiative, which is to be fully implemented by 2020. In the cover letter to its official response, the Marine Board fully supported the Commission's efforts to achieve a seamless multi-resolution digital seabed map of European waters by 2020. The Marine Board highlighted that work towards this ambitious goal should be carried out in coordination with national agencies responsible for seabed mapping and the private sector involved in operational oceanography and surveys. This would reduce the prospect to affect existing budgets for competitive innovative research, ensure a standardized, high-quality approach, and save costs by reducing duplication of effort.

This and earlier Marine Board statements are available for download at:
www.marineboard.eu/science-policy/policy-statements

Navigating the Future Series

Since 2001, the Marine Board has published three high-level position papers under its *Navigating the Future* banner. The *Navigating the Future* series has been recognized both by scientific community and policymakers as providing critical periodic research policy state-of-the-art and foresight recommendations on emerging marine science topics and needs, and associated societal challenges and opportunities.

Navigating the Future IV

Navigating the Future IV will provide a detailed strategic overview of the marine science approaches and challenges to be addressed in the next decade.

Work on *Navigating the Future IV* has created a platform for stakeholder collaboration in several research and policy areas. The Marine Board have involved a number of key European networks and projects in order to provide a state-of-the-art overview for their areas of expertise. *Navigating the Future IV* will be launched on 20 June 2013 at a dedicated event at the Royal Flemish Academy of Belgium for Sciences and the Arts in central Brussels.

Further information on the *Navigating the Future* series is available at:
www.marineboard.eu/science-foresight/navigating-the-future

VOICE

One of the Marine Board's core objectives is to forge a collective vision on the future direction of European marine science and technology. The Marine Board facilitates its members and external stakeholders to voice their common vision via science policy conferences, joint statements and high-impact communication strategies.

Conferences

3rd Marine Board Forum: *New Technologies for a Blue Future* (18 April 2012, Brussels)

The 3rd Marine Board Open Forum, *New Technologies for a Blue Future*, was held at the Royal Flemish Academy of Belgium for Sciences and the Arts (KVAB) in central Brussels on 18 April 2012. The Forum gathered experts from academia, industry and policy from 71 organizations.



The 3rd Marine Board Forum highlighted innovation hotspots for the European marine sector, showcasing emerging technologies crucial for driving blue growth, novel applications for human wellbeing and tools for next generation marine knowledge. Leading European scientists presented new and emerging technologies, confirming Europe's world leadership in several marine and maritime sectors, from sensor development to off-shore renewable energy.

The forum noted the continuous need for blue skies research to drive advanced technology development. In his visionary keynote speech, John Delaney of the University of Washington, USA, called for society to design bold, innovative ways to further understand the global Ocean in a systems approach. "We are entering a new era of engineering – Imagineering", he said. "New technologies and the knowledge they produce are going to vastly enhance the planet we live on and the future planets we will explore".

In her keynote address, Manuela Soares, Director of the Environment Directorate of the European Commission DG Research and Innovation, stressed the importance of investing in marine knowledge in order to achieve growth in the context of responsible environmental management.

Multi-stakeholder collaboration was highlighted as vital to fast-track commercialization and drive new growth.



John Delaney, University of Washington, USA, gave an inspiring keynote speech at the 3rd Marine Board Forum



"Molecular studies of sponges....are offering insights into human gene synthesis, control and expression, leading to possibilities for human bone regeneration", explained Werner Müller (Johannes Gutenberg University, Germany), at the 3rd Marine Board Forum

Stephen De Mora, Director of the Plymouth Marine Laboratory, UK, stressed that fostering innovation was key to achieving success in moving from research-funded technology developments to industry-based production. “There is a real potential for gaining financial benefits from scientific excellence through horizon-scanning such as tracking market trends and identifying emerging markets”, he explained.

The Forum participants agreed that all sectors can and should contribute to driving multi-use of ocean space in an environmentally sustainable way. “It is inspiring to note that many innovations that will progress marine science will come from areas outside marine science including robotics, advanced IT solutions and other emerging technologies converging on the oceans”, highlighted Geoffrey O’Sullivan, Marine Board delegate from the Irish Marine Institute, in the Forum closing statement.

The 3rd Marine Board Forum message and presentations are available at: www.marineboard.eu/fora/3rd-marine-board-forum

The European Marine Board gratefully acknowledges the support of the Royal Flemish Academy of Belgium for Sciences and the Arts (KVAB) and the Flemish Government Department for Economy, Science and Innovation (EWI) towards the organization of the Forum.



Olav Rune Godø (Institute of Marine Research, Norway), presented recent developments in the use of acoustics for supplying marine ecosystem information



Researchers were given an opportunity to showcase their technological advances in a poster session



Panel Discussion at the 3rd Marine Board Forum with speakers, from left: John Delaney (University of Washington, USA), Manuela Soares (European Commission DG Research and Innovation), David Murphy (Aqua TT, Ireland), Stephen de Mora (Plymouth Marine Laboratory, UK) and Harry Kolar (IBM Research)



Waddah Saab (European Commission DG Research and Innovation), makes an intervention at the 3rd Marine Board Forum

European Maritime Day Stakeholder Conference (22 May 2012, Gothenburg)

The European Marine Board and the Joint Programming Initiative *Healthy and Productive Seas and Oceans* (JPI Oceans) jointly organized a workshop at the European Maritime Day Stakeholder Conference 2012 in Gothenburg. This workshop discussed how seas and oceans research can address European societal challenges.

The Marine Board presented its two recently-published position papers on marine chemical pollution and marine microbial diversity, demonstrating how research priorities and societal challenges are directly linked in these areas. Furthermore, the workshop highlighted that JPI Oceans will rely on strategic advice from the Marine Board and other key European platforms and networks, notably at the national level.

Moderated by Niall McDonough, Marine Board Executive Scientific Secretary, the workshop marked the launch of two Marine Board position papers:

- *Monitoring chemical pollution in Europe's Seas - programmes, practices and priorities for research*, December 2011; and
- *Marine Microbial Diversity and its role in Ecosystem Functioning and Environmental Change*, May 2012 (also see p. 31).



Launch of Marine Board Position Paper 16, *Monitoring chemical pollution in Europe's seas – programmes, practices and priorities for research*, at the European Maritime Day Stakeholder Conference 2012 (22 May 2012, Gothenburg). Featured, from left: Niall McDonough (Marine Board Executive Scientific Secretary), Lowri Evans (European Commission DG MARE Director-General), Jan-Bart Calewaert (Marine Board) and Patrick Roose (position paper working group co-Chair / MUMM, Belgium).

First Conference on Ocean Literacy in Europe (12 October 2012, Bruges)



The First Conference on Ocean Literacy in Europe was co-organized by seven partners, including the Marine Board Communications Panel (MBCP, see p. 18) and VLIZ, Belgium.

At this conference, scientists, educators and policymakers from 15 countries discussed the critical need for raising the public awareness of how seas and oceans affect our daily lives. Furthermore, ocean literacy is crucial in achieving a sustainable maritime economy and knowledge-based society.

The conference demonstrated that raising the public interest and concern about the environmental and economic challenges presented by the seas and oceans would not only educate responsible citizens, it would also trigger several other crucial improvements: a better understanding and engagement from policymakers, an increased number of young people choosing for a career in marine sciences, and an inclusion of sea-related content in non-marine science education curricula. Therefore, improving ocean literacy is critical for achieving a better, more responsible and sustainable use of our seas and oceans.

The conference key messages and associated specific actions, summarized by the Marine Board and VLIZ, were delivered in the form of letters to the European Commission Directorates-General MARE and Research and Innovation as well as to the Intergovernmental Oceanographic Commission of UNESCO who welcomed these conference recommendations.

The Second Ocean Literacy Conference will take place in Plymouth, UK, on 3-5 September 2013, organized by the European Marine Science Educators Association (EMSEA).

Further information on these conferences is available at: www.emsea.eu



Niall McDonough (Marine Board Executive Scientific Secretary) giving an opening address at the First Conference on Ocean Literacy in Europe



Communication and Impact

Assessing strategic impact



Achieving Marine Board objectives ultimately relies on successful communication. By developing targeted communication plans to support efficient dissemination and communication of Marine Board activities and outputs, the Secretariat continuously works towards securing the impact of the Marine Board's strategic advice. The Secretariat employs different tools to monitor and assess Marine Board impact and to ensure that the lessons learnt from completed activities are used to inform new ones.

The uptake and impact of each Marine Board publication is closely monitored for a set period following its publication. At the end of this period, an impact assessment report is produced and presented to the Marine Board delegates at the plenary meeting.

In 2012, the Secretariat prepared impact assessment reports for two Marine Board strategic documents.

2012 impact assessment of Vision Document 2: *Marine Renewable Energy – Research Challenges and Opportunities for a New Energy Era in Europe*, September 2010

Following its launch at the EurOCEAN 2010 conference in Ostend (12 October 2010) the Marine Board vision document on renewable energy generated a strong resonance within both the marine community and policymakers. The document stated that by 2050 Europe could theoretically source up to 50% of its electricity needs from marine renewable energy sources. It reiterated the enormous potential of the oceans to contribute to energy supply and security, reducing CO₂ emissions and boosting innovation, opening a new basis for sustainable development.

The Marine Board Secretariat monitored the document uptake and impact using several tools. The final assessment was done with the help of a questionnaire. Positive

feedback on the uptake of the key messages of this document was received. The majority of respondents noted that the vision document was well designed for informing a non-specialist audience. It was also identified that the document was used as a key source for informing European science policy, including the preparation of the 2013 Work Programme for the FP7 Cooperation Theme 5, ENERGY. Finally, it was proposed that such Marine Board outputs might be worth translating into other European languages to increase their national uptake.



2012 impact assessment of Position Paper 15: *Marine Biotechnology: A New Vision and Strategy for Europe*, September 2010

Position Paper 15 was first presented at the EuroOCEAN 2010 high-level pre-event at the European Parliament (11 October 2010) by the Marine Board working group member and the paper co-author Adriana Ianora (Stazione Zoologica A. Dohrn, Italy). At the EuroOCEAN 2010 conference, it was officially presented to Maive Rute (Director of the Biotechnologies, Agriculture and Food Directorate of the European Commission DG R&I), who stated in her conference speech that this report would “inform the new comprehensive goal-oriented vision and action plan that the European Commission is preparing, to build a sustainable and innovative bio-economy by 2020”. Following the launch, the position paper was disseminated among the major European marine biotechnology stakeholders and was presented at a number of international and pan-European conferences and workshops. Exceptionally, the first print run (1,500 copies) was fully disseminated and the second print run was ordered one year after the paper’s launch.



Keynote by Jan-Bart Calewaert (Marine Board) at the SUBMARINER Blue Biotechnology Cooperation Event (9 May 2012, Kiel) presenting the progress on implementing the vision and strategy for marine biotechnology research in Europe laid out in Marine Board Position Paper 15

During the two-year impact monitoring exercise, the Secretariat received multiple feedbacks on the usefulness and uptake of the paper’s recommendations, both at national and at European levels. The paper was drawn from, and referred to, in a number of national marine research and specifically marine biotechnology plans and strategies, for example, in Portugal, Germany, Italy, Belgium, Ireland, UK and Norway among others.

At the pan-European level, the paper provided the basis for several European Commission Framework Programme 7 calls including, among others:

- FP7 2012 call KBBE.2012.3.2-01: Innovative marine biodiscovery pipelines for novel industrial products; and
- FP7 2012 call KBBE.2012.3.2-02: Improved cultivation efficiency of marine microorganisms.

The paper also contributed to the FP7 call KBBE.2011.3.2-01 for a Marine Biotechnology ERA-NET preparatory action which ultimately culminated in a call for an ERA-NET in 2012.



General positive feedbacks were received on both the informative value and the format of Position Paper 15. Stakeholders noted that the paper succeeded to link with European policies and strategies, including success stories and future perspectives. It was also proposed that such Marine Board reports can be used as the basis of scientific briefings for policymakers and as a focus in conference panel discussions.

Dissemination

It is of utmost importance that the Marine Board strategic outputs (position papers, policy briefings, vision documents, etc.) reach their audience in a timely and efficient manner. The Secretariat actively disseminates Marine Board publications both electronically, by post and via conference booths. In 2012, over 3,200 hard copies of Marine Board reports were disseminated. Marine Board publications were presented at 16 conferences (see Annex 7).

The Marine Board publications webpage features all Marine Board publications since 2000, available for download from: www.marineboard.eu/publications. Hard copies can be requested by email to the Secretariat: info@marineboard.eu.



Marine Board publications stand at the 3rd Marine Board Open Forum (18 April 2012, Brussels)

MARINE BOARD FINANCES 2012

The Marine Board annual budget is based on:

- Member Organization contributions;
- Special contributions (towards specific Marine Board activities); and
- External contracts, e.g. EC FP7 projects.

The Flemish Government of Belgium provides an in-kind contribution to the Board through the provision of office space, equipment and running costs at the InnovOcean site in Ostend. The Flemish Government support also covers the cost of employing the Marine Board Administration and Coordination Officer.

Member organizations also provide in-kind contribution through support for participation of delegates and national experts in Marine Board activities (i.e. travel and subsistence to attend meetings).

The following financial statement uses figures supplied by the ESF Department of Administration and Finance, which at the time of publishing are subject to final audit and closure of 2012 accounts.

Available Funds 2012	All figures in Euro '000s
Member Contributions	362.2
FP drawdown on employment costs (estimate) Secretariat staff time allocated to external projects	169.2
Total available funds 2012	531.4

Expenditure 2012

Secretariat employment costs	313.4
Meetings Secretariat staff travel and meeting logistics	19
Publications and dissemination	48.5
Office consumables and equipment	11.7
Staff training	2.4
Overhead to the ESF	18.9
Other Bank transfer costs, other fees, depreciation of fixed assets	1
Total expenditure 2012	414.9

Marine Board Reserve Fund¹

Available funds 2012	531.4
Expenditure 2012	414.9
Total 2012 balance	116.5
Carry over from previous year	249.7
Total reserve fund as of 31/12/2012 (estimate)	366.2

¹ In 2010, the Marine Board approved a proposal to create a reserve fund by setting aside any annual balance of income over expenditure. This reserve fund is designed to provide a contingency against any future reduction of income.

ANNEXES

Annex 1. Marine Board Member Organizations and Delegates and Alternates, as of 31 December 2012

BELGIUM

- **Belgian Science Policy Office (BELSPO)**
David Cox
- **Fonds National de la Recherche Scientifique (FNRS)**
National Fund for Scientific Research
Jean-Marie Beckers
- **Fonds voor Wetenschappelijk Onderzoek - Vlaanderen (FWO)**
Fund for Scientific Research - Flanders
Jan Mees
Tina Mertens

CROATIA

- **Institut za oceanografiju i ribarstvo (IZOR)**
Institute of Oceanography and Fisheries
Ivica Vilibic

CYPRUS

- **Ωκεανογραφικού Κέντρου Κύπρου**
Cyprus Oceanography Centre
Georgios Georgiou
George Zodiatis

DENMARK

- **Institute for Akvatiske Ressourcer (DTU Aqua)**
National Institute for Aquatic Resources
Fritz Köster

ESTONIA

- **Eesti Teaduste Akadeemia**
Estonian Academy of Sciences
Tarmo Soomere (Marine Board vice-Chair, May 2012-May 2015)

FINLAND

- **Suomen Akatemia**
Academy of Finland
Kyösti Lempa

FRANCE

- **Centre National de la Recherche Scientifique (CNRS)**
National Centre for Scientific Research
Jean-Marie Flaud

- **Institut Français de Recherche pour l'Exploitation de la Mer (Ifremer)**
French Research Institute for Exploration of the Sea
Antoine Dosdat (Marine Board vice-Chair, May 2007-May 2012)
Gilles Lericolais
- **Marine Universities of France**
Yves-Marie Paulet
Jean-Alain Pocard

GERMANY

- **Deutsche Forschungsgemeinschaft (DFG)**
German Research Foundation
Michael Schulz
Jan-Stefan Fritz
- **Hermann-von-Helmholtz-Gemeinschaft deutscher Forschungszentren (HGF)**
Association of National Research Centres
Peter Herzig
Jan-Stefan Fritz

GREECE

- **Ελληνικό Κέντρο Θαλάσσιων Ερευνών**
Hellenic Centre for Marine Research (HCMR)
Kostas Nittis (Marine Board Chair, May 2011 – May 2014)

IRELAND

- **Foras na Mara**
Marine Institute
Geoffrey O'Sullivan
- **Irish Marine Universities Consortium**
Anthony Grehan

ITALY

- **Consiglio Nazionale delle Ricerche (CNR)**
National Research Council
Enrico Brugnoli
- **Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS)**
National Institute of Oceanography and Experimental Geophysics
Alessandro Crise (Marine Board vice-Chair, May 2012-May 2015)

- **Consorzio Nazionale Interuniversitario per le Scienze del Mare (CoNISMa)**

National Inter-University Consortium for Scientific Research
Ferdinando Boero

NETHERLANDS

- **Royal Netherlands Institute for Sea Research (NIOZ)**

Carlo Heip (Marine Board vice-Chair, October 2011-October 2014)
Henk Brinkhuis

- **Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)**

Netherlands Organization for Scientific Research
Josef F. Stuefer

NORWAY

- **Havforskningsinstituttet**

Institute of Marine Research
Tore Nepstad
Erlend Moksness

- **Norges Forskningsradet**

The Research Council of Norway
Lars Horn

- **Universitetet i Bergen (UiB)**

University of Bergen / Marine Strategic Board
Peter Haugan (Marine Board vice-Chair, May 2011-May 2014)

POLAND

- **Instytut Oceanologii Polskiej Akademii Nauk (IO-PAN)**

Institute of Oceanology of the Polish Academy of Sciences
Slawomir Sagan

PORTUGAL

- **Centro de Investigação Marinha e Ambiental (CIMAR)**

Centre of Marine and Environmental Research-
Vitor Vasconcelos

- **Fundação para a Ciência e a Tecnologia (FCT)**

Science and Technology Foundation
Ricardo Santos (Marine Board vice-Chair, May 2012-May 2015)
Mario Ruivo

ROMANIA

- **Institutul National de Cercetare - Dezvoltare Marina "Grigore Antipa"**

National Institute for Marine Research and Development "Grigore Antipa"
Vasile Patrascu

SPAIN

- **Consejo Superior de Investigaciones Científicas (CSIC)**

Council for Scientific Research
Beatriz Morales-Nin (Marine Board vice-Chair, May 2009-May 2012)

- **Instituto Espanol de Oceanografia (IEO)**

Spanish Institute of Oceanography
Demetrio de Armas

SWEDEN

- **Havsmiljöinstitutet**

Swedish Institute for the Marine Environment
Michael Thorndyke

TURKEY

- **Türkiye Bilimsel ve Teknik Arastirma Kurumu (TÜBİTAK)**

The Scientific and Technological Research Council of Turkey
Çolpan Polat-Beken (Marine Board vice-Chair, May 2009-May 2012)

UNITED KINGDOM

- **Marine Alliance for Science and Technology Scotland (MASTS)**

Mark James

- **Natural Environment Research Council (NERC)**

Jacky Wood (Marine Board vice-Chair, May 2012-May 2015)
Mike Webb

- **National Oceanography Centre (NOC)**

Edward Hill (Marine Board vice-Chair, May 2007-May 2012)

Up-to-date information on the Marine Board members is available at:

www.marineboard.eu/about/members

Annex 2: Marine Board Plenary Meetings 2012

Spring 2012 Plenary Meeting, 15-16 May 2012, NOC, Southampton, UK

List of Participants

Marine Board Delegates

Representative	Organization
Kostas Nittis -Chair	Hellenic Centre for Marine Research (HCMR), Greece
Jean-Marie Beckers	National Fund for Scientific Research (FNRS), Belgium
Ferdinando Boero	National Inter-University Consortium for Marine Sciences (CoNISMa), Italy
Enrico Brugloni	National Research Council (CNR), Italy
Luminita Buga	National Institute for Marine Research and Development "Grigore Antipa", Romania
David Cox	Belgian Science Policy Office (BELSPO), Belgium
Antoine Dosdat On 16 May	French Research Institute for Exploration of The Sea (Ifremer), France
Gerard Eldin	National Centre for Scientific Research (CNRS), France
Peter Haugan	Marine Strategic Board - University of Bergen (UIB), Norway
Carlo Heip	Royal Netherlands Institute for Sea Research (NIOZ), Netherlands
Gilles Lericolais On 16 May	French Research Institute for Exploration of the Sea (Ifremer), France
Edward Hill Speaker To The Open Session	National Oceanography Centre (NOC), UK
Jan Mees	Fund for Scientific Research – Flanders (FWO), Belgium
Erlend Moksness	Institute of Marine Research (IMR), Norway
Yves-Marie Paulet	Marine Universities of France
Mario Ruivo	Science and Technology Foundation (FCT), Portugal
Ricardo Santos	Science and Technology Foundation (FCT), Portugal
Tarmo Soomere	Estonian Academy of Sciences, Estonia
Kirsten Thomsen	National Institute for Aquatic Resources (DTU Aqua), Denmark
Vitor Vasconcelos	Centre of Marine and Environmental Research (CIMAR), Portugal
Jacky Wood	Natural Environment Research Council (NERC), UK

Invited Speakers

Representative	Organization
Mitrasen Bhikajee	Intergovernmental Oceanographic Commission (IOC) of UNESCO
Gwyn Griffiths	National Oceanography Centre (NOC), UK
Martin Hynes	European Science Foundation (ESF)
Mark James	Marine Alliance for Science and Technology (Masts), UK
Iain Shepherd	European Commission DG Maritime Affaires and Fisheries
Jan Maarten De Vet	Ecorys

Guests to the Open Session

Representative	Organization
Kathrine Angell-Hansen	JPI Oceans
Trevor Guymer	National Oceanography Centre (NOC), UK / UK-IOC
Kim Marshall Brown	National Oceanography Centre (NOC), UK
Laurence Mee	Scottish Association of Marine Sciences (SAMS), UK
Tim Minshull	University of Southampton, UK
Mike Webb	Natural Environment Research Council (NERC), UK
Andrew Willmott	National Oceanography Centre (NOC), UK
Ian Wright	National Oceanography Centre (NOC), UK

Marine Board Secretariat

Name	Organization
Niall McDonough Speaker To The Open Session	Marine Board Executive Scientific Secretary
Jan-Bart Calewaert	Marine Board Secretariat
Maud Evrard	Marine Board Secretariat
Kate Larkin	Marine Board Secretariat

Marine Board Autumn 2012 Plenary Meeting, 16-17 October 2012, NIOZ, Texel, Netherlands

List of Participants

Marine Board Delegates

Representative	Organisation
Kostas Nittis - Chair	Hellenic Centre for Marine Research (HCMR), Greece
Enrico Brugnoli	National Research Council (CNR), Italy
David Cox	Belgian Science Policy Office (BELSPO), Belgium
Alessandro Crise	National Institute of Oceanography and Experimental Geophysics (OGS), Italy
Vlado Dadic	Institute of Oceanography and Fisheries (IZOR), Croatia
Ferdinando Boero	National Inter-University Consortium for Marine Sciences (CoNISMa), Italy
Jan-Stefan Fritz	Helmholtz Association (HGF), Germany
Peter Haugan	Marine Strategic Board - University of Bergen (UiB), Norway
Dan Hayes	Cyprus Oceanography Centre, Cyprus
Kyösti Lempa	Academy of Finland (AKA), Finland
Gilles Lericolais	French Research Institute for Exploration of The Sea (Ifremer), France
Tina Mertens	Fund for Scientific Research – Flanders (FWO), Belgium
Geoffrey O'sullivan	Marine Institute, Ireland
Yves- Marie Paulet	Marine Universities of France
Mario Ruivo	Science and Technology Foundation (FCT), Portugal
Slawomir Sagan	Institute of Oceanology, Polish Academy of Sciences (IO-PAN), Poland
Ricardo Santos	Science and Technology Foundation (FCT), Portugal
Tarmo Soomere	Estonian Academy of Sciences, Estonia
Josef Stuefer	Netherlands Organization for Scientific Research (NWO), Netherlands
Kirsten Thomsen	National Institute for Aquatic Resources (DTU Aqua), Denmark
Michael Thorndyke	Swedish Institute for The Marine Environment, Sweden
Jacky Wood	Natural Environment Research Council (NERC), UK

Invited Speakers and Guests to the Open Session

Representative	Organisation
Dan Brinkhuis	Science Media, Netherlands
Henk Brinkhuis	Director, Royal Netherlands Institute For Sea Research (NIOZ), Netherlands
Colin Brown	Ryan Institute at National University of Ireland, Galway
Eric Karsenti	European Molecular Biology Laboratory (EMBL)
Waddah Saab	EC DG Research and Innovation
Jan Seys	Flanders Marine Institute (VLIZ), Belgium
Astrid Von Soosten	European Molecular Biology Laboratory (EMBL)

Marine Board Communications Panel Members invited to the Open Session

Name	Organisation
Jan Seys Speaker To The Open Session	Flanders Marine Institute (VLIZ), Belgium
Nienke Bloksma	Royal Netherlands Institute For Sea Research (NIOZ), Netherlands
Lisa Fitzpatrick	Marine Institute, Ireland
Kjartan Maestad	Institute of Marine Research (IMR), Norway
Kim Marshall-Brown	National Oceanography Centre (NOC), UK
Andreas Villwock	Helmholtz Centre For Ocean Research Kiel (GEOMAR), Germany

Marine Board Secretariat

Name	Organisation
Niall McDonough	Marine Board Executive Scientific Secretary
Jan-Bart Calewaert	Marine Board Secretariat
Nan-Chin Chu	Marine Board Secretariat
Kate Larkin	Marine Board Secretariat

Annex 3: Marine Board Working Group Members 2012

Working Group Marine Microbial Diversity Role in Ecosystem Functioning and Environmental Change (WG MICROCEAN)

Working group members:

- Frank Oliver Glöckner, Max Planck Institute for Marine Microbiology, Germany – working group chair
- Adriano Bordalo, Centre of Marine and Environmental Research (CIIMAR) and of the Institute of Biomedical Sciences of Abel Salazar (ICBAS), University of Porto, Portugal
- Josep Maria Gasol, Mediterranean Marine and Environmental Centre (CMIMA) of the Spanish National Research Council, Spain
- Francisco Hernandez, Flanders Marine Data Centre (VMDC), Belgium
- Mathias Labrenz, Leibniz Institute for Baltic Sea Research, Germany
- Fergal O’Gara, National University of Ireland Cork (UCC), Ireland
- Pitta, Paraskevi, Hellenic Centre for Marine Research (HCMR), Greece
- Ruth-Anne Sandaa, University of Bergen (UiB), Norway
- Lucas J. Stal, Institute of Ecology of the Royal Netherlands Academy of Arts and Sciences (NIOO-KNAW), Netherlands
- Elena Stoica, National Institute for Marine Research and Development “Grigore Antipa”, Romania
- Marta Varela Rozados, Spanish Institute of Oceanography (IEO), Spain

Marine Board support:

- Science officer: Jan-Bart Calewaert
- Manager: Niall McDonough

Working Group Use of Marine Protected Areas for Ecosystem-Based Management (WG MPAs)

Working group members and contributors:

- Esben Olsen, Institute of Marine Research (IMR), Norway – working group chair
- Luciano Fonseca, International Oceanographic Commission of UNESCO
- Raquel Goñi, Spanish Oceanography Institute (IEO), Spain
- David Johnson, Seascope consultants, UK
- Stelios Katsanevakis, Joint Research Centre (JRC), European Commission
- Enrique Macpherson, Spanish National Research Council (CSIC-MCINN), Spain
- Dominique Pelletier, French Sea Research Institute for Exploitation of the Sea (Ifremer), France
- Marijn Rabaut, Ghent University, Belgium
- Marta Chantal Ribeiro, University of Porto, Portugal
- Phil Weaver, National Oceanography Centre (NOC), UK
- Tania Zaharia, National Institute for Marine Research and Development “Grigore Antipa”, Romania

Marine Board support:

- Science officers: Aurélien Carbonnière (until October 2011), Maud Evrard (until June 2012), Kate Larkin (from June 2012)
- Manager: Niall McDonough

Working Group *Oceans and Human Health* (WG OHH)

Working group members and contributors:

- Michael Moore, Plymouth Marine Laboratory (PML) and Peninsula Medical School, UK – working group chair
- Craig Baker-Austin, Centre for Environment, Fisheries & Aquaculture Science (Cefas), UK
- Michael H Depledge, European Centre for Environment & Human Health, University of Exeter Medical School, UK
- Lora Fleming, European Centre for Environment & Human Health, University of Exeter Medical School, UK
- Philipp Hess, French Research Institute for Exploration of the Sea (Ifremer), France
- David Lees, Centre for Environment, Fisheries & Aquaculture Science (Cefas), UK
- Paul Leonard, Faculty of Science & Technology, UK
- Lise Madsen, National Institute of Nutrition and Seafood Research, University of Bergen, Norway / University of Copenhagen, Denmark
- Richard Owen, University of Exeter Business School, UK
- Hans Pirllet, Flanders Marine Institute, Belgium
- Vitor Vasconcelos, Centre of Marine and Environmental Research (CIMAR), Portugal
- Aldo Viarengo, DISIT - Dipartimento di Scienze e Tecnologie Innovative, Università del Piemonte Orientale “Amedeo Avogadro”, Italy

Marine Board support:

- Science officers: Maud Evrard (until June 2012); Jan-Bart Calewaert (from June 2012)
- Manager: Niall McDonough

Annex 4: Marine Board Panel Members 2012

Marine Board Communications Panel (MBCP)

Members:

- Jan Seys, Flanders Marine Institute (VLIZ), Belgium – panel chair
- Nienke Bloksma, Royal Netherlands Institute for Sea Research (NIOZ), Netherlands
- Anne Ditlefsen, Research Council of Norway
- Géraldine Fauville, Sven Lovén Center - Kristineberg, University of Gothenburg, Sweden
- Lisa Fitzpatrick, Irish Marine Institute, Ireland
- Albert Gerdes, Centre for Marine Environmental Sciences (MARUM), Germany
- Marion Le Foll/ Myriam Altius (till Oct. 2012), French Research Institute for Exploration of the Sea (Ifremer), France
- Sigrid Maebe, Management Unit of the North Sea Mathematical Models (MUMM), Belgium
- Kjartan Mæstad, Institute of Marine Research (IMR), Norway
- Kim Marshall Brown, National Oceanography Centre (NOC), UK
- Martha Papathanassiou, Hellenic Centre for Marine Research (HCMR), Greece
- Margarete Pauls, Alfred Wegener Institute for Polar and Marine Research (AWI), Germany
- Joanna Piwowarczyk, Institute of Oceanology of the Polish Academy of Sciences (IO-PAN), Poland
- Line Reeh, National Institute of Aquatic Resources (DTU Aqua), Denmark
- Yianna Samuel-Rhoads, Cyprus Oceanography Centre, Cyprus
- Cristina Serra, National Institute of Oceanography and Experimental Geophysics (OGS), Italy
- Vitor Vasconcelos, Centre of Marine and Environmental Research (CIMAR)
- Andreas Villwock, Helmholtz Centre for Ocean Research Kiel (GEOMAR), Germany

Marine Board support:

- Science officer: Maud Evrard (until June 2012); Nan-Chin Chu (from August 2012)
- Manager: Niall McDonough

Marine Board European Scientific Diving Panel (MB ESDP)

Members:

- Jean-Pierre Féral, Institut national des sciences de l'Univers (INSU) of the French National Centre for Scientific Research, France – panel chair (until October 2012)
- Martin Sayer, Scottish Association for Marine Science (SAMS), UK – panel chair (from October 2012)
- Philipp Fischer, Alfred Wegener Institute for Polar and Marine Research (AWI), Germany – panel deputy chair
- Giorgio Caramanna, Italian Association of Scientific Divers, Italy
- Pirkko Kekalainen, Finnish Scientific Diving Committee, Finland
- Roger Lindblom, University of Gothenburg, Sweden
- Alain Norro, Management Unit of the North Sea Mathematical Models and the Scheldt estuary (MUMM), Belgium

Marine Board support:

- Science officer: Kate Larkin
- Manager: Niall McDonough

Annex 5: Meetings and Events Organized by the European Marine Board Secretariat in 2012 (including jointly)¹

Date	Event
24/01/2012	Marine Board Panel Review Committee Meeting, Brussels
25/01/2012	Marine Board ExCom Meeting, Brussels
01/02/2012	EU FP7 SEAS-ERA Atlantic Workshop II Preparatory Meeting, Brussels
28/02/2012	EU FP7 SEAS-ERA Work Package 6 Board Meeting, Ostend
28-29/02/2012	EU FP7 SEAS-ERA Atlantic Consultative Workshop 1, Ostend
18/04/2012	3 rd Marine Board Forum <i>New Technologies for a Blue Future</i> , Brussels
19-20/04/2012	Marine Board Communications Panel Meeting, Bruges
23-24/04/2012	EU FP7 SEAS-ERA Atlantic Consultative Workshop 2, Lisbon
14/05/2012	Marine Board ExCom Meeting, Southampton
15-16/05/2012	Marine Board Spring 2012 Plenary Meeting, Southampton
22/05/2012	European Maritime Day Stakeholder Conference Joint Workshop with JPI Oceans, <i>Seas and Oceans Research in Europe: addressing critical societal and policy challenges</i> , Gothenburg
4/07/2012	Marine Board European Scientific Diving Panel 8 th Meeting, Brussels
12/07/2012	Marine Board Communications Panel Session at Euroscience Open Forum 2012 (ESOF), Dublin
27-28/9/2012	EU FP7 STAGES Kick-off Meeting, Brussels
12/10/2012	First Conference on Ocean Literacy in Europe, Bruges
15/10/2012	Marine Board ExCom Meeting, Texel
15-16/10/2012	Marine Board Communications Panel Meeting, Texel
16-17/10/2012	Marine Board Autumn 2012 Plenary Meeting, Texel
31/10/2012	Marine Board European Scientific Diving Panel 9 th Meeting, Brussels

¹ This list includes only formal meetings and events involving multiple stakeholders

Annex 6: Presentations to Meetings by Marine Board members and Secretariat in 2012

Date	Event	Speaker(s)
01/02/2012	Meeting of the Flemish Marine Biotechnology Platform, Gent	Jan-Bart Calewaert
07/02/2012	Eur-Oceans Council Meeting, Sète	Niall McDonough
08/02/2012	University of Gent MSc programme MARES visit to the Marine Board offices, Ostend	Dina Eparkhina
22/03/2012	<i>Fish & Ships</i> Conference (EMAR ² RES - MARCOM+ Final Conference), Brussels	Niall McDonough
18/04/2012	3 rd Marine Board Forum <i>New Technologies for a Blue Future</i> , Brussels	Kostas Nittis Antoine Dosdat Geoffrey O'Sullivan
26-27/04/2012	EU FP7 MarineBiotech Work Package 2 Workshop, Faro	Jan-Bart Calewaert
9-10/05/2012	SUBMARINER Blue Biotechnology Cooperation Event, <i>New Strategies and Future Perspectives</i> , Kiel	Jan-Bart Calewaert
22/05/2012	European Maritime Day Stakeholder Conference Joint Workshop with JPI Oceans, <i>Seas and Oceans Research in Europe: addressing critical societal and policy challenges</i> , Gothenburg	Niall McDonough
29/05/2012 01/06/2012	OECD Global Forum on Biotechnology, Vancouver	Jan-Bart Calewaert
20/06/2012	Presentation on Marine Board Overview and Perspectives to European Commission DG MARE Maritime Policy Unit, Brussels	Niall McDonough
25/06/2012	JPI Oceans visit to Marine Board, Ostend	Niall McDonough Kate Larkin
5/9/2012	Presentation of EU FP7 STAGES Work Package 4 'Building a Science-Policy Interface to Support MSFD Implementation' to European Commission DG Environment, Brussels	Kate Larkin
27-28/9/2012	STAGES Kick-off Meeting, Brussels	Niall McDonough Kate Larkin
08-09/10/2012	CSA MarineBiotech Workshop, Hamburg	Jan-Bart Calewaert
12/10/2012	First Conference on Ocean Literacy in Europe, Bruges	Niall McDonough
14/11/2012	International Meeting on Marine and Coastal Biodiversity, Brest	Yves-Marie Paulet
10-11/12/2012	EUROMARINE General Assembly, Brussels	Niall McDonough

Annex 7: Participation in Conference and Event Exhibitions in 2012

Date	Event
1/02/2012	Meeting of the Flemish Marine Biotechnology Platform, Gent
21/03/2012	EU FP7 MARCOM+ Steering Committee Meeting, Brussels
22/03/2012	Conference <i>Fish & Ships</i> (EMAR ² RES - MARCOM+ Final Conference), Brussels
26-27/03/12	Conference <i>Planet Under Pressure</i> , London
18/04/2012	3 rd Marine Board Forum <i>New Technologies for a Blue Future</i> , Brussels
9-10/05/2012	SUBMARINER Blue Biotechnology Cooperation Event, <i>New Strategies and Future Perspectives</i> , Kiel
15-16/05/2012	Marine Board Spring 2012 Plenary Meeting, Southampton
22/05/2012	European Maritime Day Stakeholder Conference, Gothenburg
30-31/05/2012	OECD Global Forum on Marine Biotechnology, Vancouver
28/06/2012	Euroscience Open Forum (ESOF) 2012, Dublin
26/07/2012	EU FP7 MARLISCO Kick-off Meeting, Brussels
16-17/10/2012	Marine Board Autumn 2012 Plenary Meeting, Texel
29-30/10/2012	European Union Strategy for the Atlantic (EUSA) Meeting, Brest
13/11/2012	International Marine and Sub-marine Infrastructures Symposium, Toulon
14/11/2012	International Meeting on Marine and Coastal Biodiversity, Brest
27/11/2012	Conference <i>Littoral 2012</i> , Ostend
10/12/2012	EUROMARINE Conference

Annex 8: Marine Board Member Contributions 2012

Marine Board Member	Country	Contribution 2012/€
National Fund for Scientific Research, FNRS	Belgium	8,333
Fund for Scientific Research – Flanders, FWO	Belgium	8,333
Belgian Science Policy Office, BELSPO	Belgium	6,000*
Institute of Oceanography and Fisheries, IZOR	Croatia	3,000
Cyprus Oceanography Centre	Cyprus	8,000
DTU Aqua	Denmark	12,000
Estonian Academy of Sciences	Estonia	8,000
Academy of Finland	Finland	12,667
National Centre for Scientific Research, CNRS	France	16,000
French Research Institute for Exploitation of the Sea, Ifremer	France	16,000
Marine Universities of France	France	17,000
German Research Foundation, DFG	Germany	16,000
Association of National Research Centres, HGF	Germany	16,000
Hellenic Centre for Marine Research, HCMR	Greece	8,667
Irish Marine Institute	Ireland	10,667
Irish Marine Universities Consortium	Ireland	N/A**
National Research Council, CNR	Italy	16,000
National Institute of Oceanography and Experimental Geophysics, OGS	Italy	16,000
CoNISMa	Italy	17,000
Netherlands Organisation for Scientific Research, NWO	Netherlands	10,667
Royal Netherlands Institute for Sea Research, NIOZ	Netherlands	12,000
University of Bergen, UiB	Norway	10,667
Research Council of Norway, RCN (+Institute of Marine Research, IMR)	Norway	21,334
Institute of Oceanology - Polish Academy of Sciences, IO-PAN	Poland	8,000
Science and Technology Foundation, FCT	Portugal	5,333
Centre of Marine and Environmental Research, CIMAR	Portugal	5,333
National Institute for Marine Research and Development “Grigore Antipa”	Romania	7,333
Spanish Institute of Oceanography, IEO	Spain	10,667
Council for Scientific Research, CSIC	Spain	10,667*
Swedish Institute for the Marine Environment	Sweden	12,667
Scientific and Technological Research Council of Turkey, TÜB TAK	Turkey	8,000
Natural Environment Research Council, NERC (+National Oceanography Centre)	UK	32,000
Marine Alliance of Science and Technology Scotland, MASTS	UK	8,500
Total Expected Member Contributions 2012		€ 378.835

* Outstanding as of 31 December 2012

**Members joining at the Autumn Plenary Meeting are not required to pay the annual contribution for that year.

Annex 9 : Full list of Marine Board Publications

Marine Board Position Papers:

- Glöckner F.O. *et al.* **Marine Microbial Diversity and its role in Ecosystem Functioning and Environmental Change. Marine Board Position Paper 17.** Calewaert, J.B., McDonough N. (Eds). European Marine Board, Ostend, Belgium. 2012. ISBN 978-2-918428-71-8, 80pp.
Coordinating author: Frank Oliver Glöckner. Contributing authors: Frank Oliver Glöckner (Chair), Lucas J. Stal (Coordinator Chapter 2), Ruth-Anne Sandaa (Coordinator Chapter 3), Josep Maria Gasol (Coordinator Chapter 4), Fergal O’Gara, Francisco Hernandez, Matthias M. Labrenz, Elena Stoica, Marta Varela Rozados, Adriano Bordalo, Paraskevi Pitta. Special contributions: Frede Thingstad, Marcel Kuypers
- Roose P. *et al.* **Monitoring chemical pollution in Europe’s Seas - programmes, practices and priorities for research. Marine Board Position Paper 16.** Calewaert, J.B., McDonough N. (Eds). Marine Board, Ostend, Belgium. 2011. ISBN 978-2-918428-57-2, 104pp.
Coordinating authors: Patrick Roose and Colin Janssen. Contributing authors: Joan Albaigés, Maria João Bebianno, Kees Camphuysen, Margot Cronin, Jan de Leeuw, Geir Wing Gabrielsen, Thomas Hutchinson, Ketil Hylland, Colin Janssen, Bo Jansson, Bjørn Munro Jenssen, Patrick Roose, Detlef Schulz-Bull, Piotr Szefer. Case study lead authors: Kees Camphuysen (Chapter 5) and Ketil Hylland (Chapter 6). Special contributions: Lynda Webster and Torgeir Bakke.
- Querellou J. *et al.* **Marine Biotechnology: A Vision and New Strategy for Europe. Marine Board Position Paper 15.** McDonough N., Calewaert J-B. (Eds.). Marine Board-ESF, Ostend, Belgium. 2010. ISBN 978-2-918428-26-8, 94pp.
Contributing authors: Torger Borresen, Catherine Boyen, Alan Dobson, Manfred Hofle, Adrianna Ianora, Marcel Jaspars, Anake Kijjoo, Jan Olafsen, Joel Querellou, George Rigos, Rene Wijffels. Special contributions: Chantal Compere, Michel Magot, Jeanine Olsen, Philippe Potin, Filip Volckaert.
- Rice J. *et al.* **Science Dimensions of an Ecosystem Approach to Management of Biotic Ocean Resources, SEAMBOR. Marine Board Position Paper 14.** McDonough N., Carbonnière A. (Eds). Marine Board-ESF, Ostend, Belgium. 2010. ISBN 978-2-918428-10-7, 90pp.
Contributing authors: Maria de Fátima Borges, Anthony Grehan, Andrew Kenny, Harald Loeng, Francesc Maynou, Jake Rice, Ricardo Serrão Santos, Hein Rune, Skjoldal, Olivier Thébaud, Vassiliki Vassilopoulou, Filip Volckaert. External contributions: Olivier Curtil, Harold Levrel.
- Boyd I. *et al.* **The Effects of Anthropogenic Sounds on Marine Mammals. Marine Board Position Paper 13.** Connolly N., Calewaert J-B. (Eds). Marine Board-ESF, Ostend, Belgium. 2008. ISBN 2-912049-85-7, 94pp.
Coordinating authors: Ian Boyd, Bob Brownell, Doug Cato, Chris Clark, Dan Costa, Peter Evans, Jason Gedamke, Roger Gentry, Bob Gisiner, Jonathan Gordon, Paul Jepson, Patrick Miller, Luke Rendell, Mark Tasker, Peter Tyack, Erin Vos, Hal Whitehead, Doug Wartzok, Walter Zimmer.
- Robinson I.S. *et al.* **Remote Sensing of Shelf Sea Ecosystems. Marine Board Position Paper 12.** Connolly N., Walter N., Calewaert J-B. (Eds). Marine Board-ESF, Strasbourg, France. 2008. ISBN 2-912049-77-6, 62pp.
Contributing authors: David Antoine, Mirosław Darecki, Patrick Gorringer, Lasse Pettersson, Ian S. Robinson, Kevin Ruddick, Rosalia Santoleri, Herbert Siegel, Patrick Vincent, Marcel R. Wernand, Guy Westbrook, Giuseppe Zibordi.

- Connolly N. *et al* (Eds). **Marine Board Responses to the European Commission's Green Papers: (i) Towards a future Maritime Policy for the Union: A European vision for the oceans and seas and (ii) The European Research Area: New Perspectives EC's Green Papers on: Maritime Policy, and the ERA. Marine Board Position Paper 11.** Marine Board-ESF, Strasbourg, France. 2007. ISBN 2-912049-73-3, 46pp.
Developed from existing Marine Board-ESF publications and discussions with Marine Board Delegates and Executive Committee.
- Binot J. *et al*. **European Ocean Research Fleets – Towards a Common Strategy and Enhanced Use. Marine Board Position Paper 10.** Connolly N., Carbonnière A. (Eds). Marine Board-ESF, Strasbourg, France. 2007. ISBN 2-912049-62-8, 62pp.
Contributing authors: Jacques Binot, Juanjo Da obeita, Thomas Muller, Per Wilhelm Nieuwejaar, Marieke J. Rietveld, Paul Stone. Special contributions: Massimiliano di Bitteto, John Breslin, Klaus von Broeckel, Joao Coimbra, Dimitris Georgopoulos, Mick Gillooly, Hannu Gronvall, Jan Piechura, Frans Veenstra.
- Philippart C.J.M. *et al*. **Impacts of Climate Change on the European Marine and Coastal Environment – Ecosystems Approach. Marine Board Position Paper 9.** Connolly N., Walter N. (Eds). Marine Board-ESF, Strasbourg, France. 2007. ISBN 2-912049-63-6, 84pp.
Contributing authors: Ricardo Anadón, Roberto Danovaro, Joachim W. Dippner, Kenneth F. Drinkwater, Stephen J. Hawkins, Geoffrey O'Sullivan, Temel Oguz, Catharina J.M. Philippart, Philip C. Reid.
- Minster J-F., Connolly N. *et al* (Eds). **Navigating the Future III. Marine Board Position Paper 8.** Marine Board-ESF, Strasbourg, France. 2006. ISBN 2-912049-59-8, 69pp.
Contributing editors: Aurélien Carbonnière, Niamh Connolly, Jan de Leeuw, Maud Evrard, Jan Mees, Jean-François Minster, Kostas Nittis, Geoffrey O'Sullivan, Nicolas Walter.
- Prandle D. *et al*. **Modelling in Coastal and Shelf Seas – European Challenges. Marine Board Position Paper 7.** Connolly N., Walter N. (Eds). Marine Board-ESF, Strasbourg, France. 2005. 30pp.
Contributing authors: João Gomes Ferreira, Wolfgang Fennel, Michael Hartnett, Peter Herman, Michiel Knaapen, Hans Los, Morten Pejrup, Thomas Pohlmann, David Prandle, Roger Proctor, Yann-Hervé de Roeck, Karline Soetaert, Takvor Soukissian, Tapani Stipa, Georg Umgiesser, Waldemar Walczowski.
- Mantoura F., Boissonnas J., d'Ozouville L., Connolly N. **Navigating the Future II - Summary of Integrating Marine Science in Europe. Marine Board Position Paper 6.** Minster J-F. *et al* (Eds). Marine Board-ESF, Strasbourg, France. 2003. 24pp.
Editors: John Marks, Jean-François Minster, Mario Ruivo, Silvana Vallerga; Other Contributors: Avan Antia, Laura Castellucci, Juanjo Dañobeitia, Jens Degett, Bob Dickson, Graham Edgar, Paul Galvin, David Griffith, Gwyn Griffiths, Harlyn Halvorson, Carlo Heip, Jean-Pierre Henriet, Catherine Jeandel, Frank Lamy, Jacques Legrand, Han Lindeboom, Karin Lochte, Jens Meincke, Geoffrey O'Sullivan, Nadia Pinardi, Gérard Riou, Douglas Wallace, Gerold Wefer, John Woods.
- Mantoura F., Boissonnas J., d'Ozouville L., Connolly N. **Integrating Marine Science in Europe. Marine Board Position Paper 5.** Minster J-F. *et al* (Eds). Marine Board-ESF, Strasbourg, France. 2002. 148pp.

Editors: John Marks, Jean-François Minster, Mario Ruivo, Silvana Vallerga; Other Contributors: Avan Antia, Laura Castellucci, Juanjo Dañobeitia, Jens Degett, Bob Dickson, Graham Edgar, Paul Galvin, David Griffith, Gwyn Griffiths, Harlyn Halvorson, Carlo Heip, Jean-Pierre Henriet, Catherine Jeandel, Frank Lamy, Jacques Legrand, Han Lindeboom, Karin Lochte, Jens Meincke, Geoffrey O'Sullivan, Nadia Pinardi, Gérard Riou, Douglas Wallace, Gerold Wefer, John Woods.

- Halvorson H. *et al.* **Marine Biotechnology – A European Strategy for Marine Biotechnology. Marine Board Position Paper 4.** Mantoura F. (Ed). Marine Board-ESF, Strasbourg, France. 2001. ISBN 2-912049-29-6, 30pp.
Contributing authors: Maria Alexis, Grant Burgess, Joao Coimbra, Yves le Gal, Maura Greal, David Gutnick, Harlyn Halvorson, Manfred Höfle, Zuzana Smolenicka, Bernt Walther, Roman Wenne; Special consultant: Jan A. Olafsen.
- Boissonnas J., d'Ozouville L. *et al.* **Navigating the Future – Towards a Marine European Research Area. Marine Board Position Paper 3.** Marine Board-ESF, Strasbourg, France. 2001. 14pp.
Core Drafting Group: J. Boissonnas, O.R. Godø, C. Jeandel, J.W. de Leeuw, K. Lochte, R.F.C. Mantoura, J. Marks, J.F. Minster, G. O'Sullivan, L. d'Ozouville, S. Vallerga, G. Wefer; Other contributors: H. Halvorson, C. Heip, B. B. Jørgensen.
- Boissonnas J., d'Ozouville L. *et al.* **Towards a European Marine Research Area. Marine Board Position Paper 2.** Marine Board-ESF, Strasbourg, France. 2000. 54pp.
Core Drafting Group: J. Boissonnas, O.R. Godø, C. Jeandel, J.W. de Leeuw, K. Lochte, R.F.C. Mantoura, J. Marks, J.F. Minster, G. O'Sullivan, L. d'Ozouville, S. Vallerga, G. Wefer; Other contributors: H. Halvorson, C. Heip, B. B. Jørgensen.
- Heip C., Hummel H. **Establishing a Framework for the Implementation of Marine Biodiversity Research in Europe. Marine Board Position Paper 1.** Mantoura F. (Ed). Marine Board-ESF, Strasbourg, France. 2000. ISBN 2-912049-13-X, 50pp.

Special Reports:

- Heip C., *et al.* **Climate Change and Marine Ecosystem Research: Synthesis of European Research on the Effects of Climate Change on Marine Environments. Marine Board – CLAMER Special Report.** Calewaert J.B., Heip C., McDonough N., Philippart C. (Eds). Marine Board, Ostend, Belgium. 2011. 154pp.
Coordinating author: Carlo Heip. CLAMER Scientific Expert Panel Contributors: Carlo Heip, Manuel Barange, Roberto Danovaro, Marion Gehlen, Anthony Grehan, Filip Meysman, Temel Oguz, Vangelis Papathanassiou, Catharina Philippart, Jun She, Paul Treguer, Rachel Warren, Paul Wassmann, Phil Weaver, Rita Yu. Other Contributors: Justus van Beusekom, Philip Boyd, Andrew Cooper, Hein de Baar, Henk de Haas, Felix Janssen, Wolfgang Ludwig, Leif Toudal Pedersen, Michael Tsimplis, Hans Von Storch.

Marine Board Future Science Briefs:

- Heip C., McDonough N. **Marine Biodiversity: A Science Roadmap for Europe. Marine Board Future Science Brief 1.** European Marine Board, Ostend, Belgium. 2012. ISBN 978-2-918428-75-6, 32pp.

Marine Board Vision Documents:

- Le Boulluec M. *et al.* **Marine Renewable Energy – Research Challenges and Opportunities for a New Energy Era in Europe. Marine Board Vision Document 2.** McDonough N., Evrard M. (Eds). Marine Board-ESF, Ostend, Belgium. 2010. ISBN: 978-2-918428-27-5, 12pp.
Contributing Authors: Augusto Barata da Rocha, Cibran Camba Rey, Marc Le Boulluec, John Dalen, Henry Jeffrey, Finn Gunnar Nielsen, Geoffrey O’Sullivan, Nathalie Rousseau, Eoin Sweeney, Judith Wolf.
- Dosdat A., Ryder P. *et al.* **Marine Board – EuroGOOS Vision Document on EMODNET, The European Marine Observation and Data Network. Marine Board Vision Document 1.** Ryder P., Connolly N., Evrard M. (Eds). Marine Board-ESF, Ostend, Belgium. 2008. 10pp.
Contributing authors: Patrick Berthou, Taco de Bruin, Howard Cattle, Franciscus Colijn, Antoine Dosdat, Michael Gillooly, Johnny Johannessen, Juha Markku Leppanen, Giuseppe Manzella, Geoffrey O’Sullivan, Sylvie Pouliquen, Roger Proctor, Peter Ryder, Dick Schaap.

Marine Board Fora:

- Kate Larkin *et al* (Eds). **2nd Marine Board Forum, Towards a European Network of Marine Observatories for Monitoring and Research (16 September 2010, Brussels). Forum Proceedings.** Marine Board, Ostend, Belgium. 2012.
Proceedings prepared and edited by Marine Board Secretariat: Kate Larkin, Aurélien Carbonnière, Dina Eparkhina, Jan-Bart Calewaert, Maud Evrard, Niall McDonough
- Connolly N., Evrard M. (Eds). **1st Marine Board Forum, Marine Data Challenges: from Observation to Information (15 May 2008, Ostend). Forum Proceedings.** Marine Board-ESF, Ostend, Belgium. 2008. ISBN 2-912049-97-0, 36pp.
Forum rapporteurs: Erlend Moksness, Jacky Wood

Marine Board Annual Reports:

- McDonough N., Eparkhina D. **Marine Board Annual Report 2012.** European Marine Board, Ostend, Belgium. 2013. ISBN: 9789079528196, 64pp.
- McDonough N., Eparkhina D. **Marine Board Annual Activity Report 2011.** Marine Board, Ostend, Belgium. 2012. ISBN 9789079528141, 64pp.
- McDonough N., Eparkhina D. **Marine Board Annual Activity Report 2010.** Marine Board-ESF, Ostend, Belgium. 2011. ISBN 9789079528110, 72pp.
- McDonough N., Eparkhina D., Calewaert J-B. **Marine Board Annual Activity Report 2009.** Marine Board-ESF, Ostend, Belgium. 2010. 50pp.
- Connolly N., Eparkhina D., Calewaert J-B. **Marine Board Annual Activity Report 2008.** Marine Board-ESF, Ostend, Belgium. 2009. 44pp.
- Connolly N. **Marine Board Annual Report 2007.** Eparkhina D., Evrard M., Calewaert J-B., Carbonnière A. (Eds). Marine Board-ESF, Ostend, Belgium. 2009. 28pp.

EurOCEAN Conference Reports:

- McDonough N., Calewaert J-B. (Eds) **EurOCEAN 2010 Conference Report and Ostend Declaration.** EurOCEAN 2010 – Grand challenges for marine research in the next decade. Thermae Palace, Ostend, Belgium, 12-13 October 2010. Belgian Science Policy Office (BELSPO), Brussels. VLIZ Special Publication 49 – Flanders Marine Institute (VLIZ). Ostend, Belgium. 2011. ISSN 1377-0950, 60pp.
Conference rapporteurs: Florence Coroner, Jan-Stefan Fritz, Stephen Hall, Nina Hedlund, Jacky Wood.
- O’Sullivan G., Angell-Hansen K., Connolly N. (Eds). **EurOCEAN 2007 (22 June 2007, Aberdeen, Scotland). Conference Report and Aberdeen Declaration.** Marine Institute, Galway, Ireland. 2007. 18pp.
Conference rapporteurs: Charlotte Jagot, Jacky Wood, Niall McDonough, Stephen Hall.
- Cieslikiewicz, W., Connolly, N., Ollier G., O’Sullivan G. (Eds). **Proceedings of the EurOCEAN 2004 European Conference on Marine Science and Ocean Technology (10-13 May 2004, Galway, Ireland).** Luxemburg: Office for Official Publications of the European Communities. 2007. ISBN 92-894-7727-X, 420pp.

Copies of Marine Board publications are available for download from: www.marineboard.eu/publications
For hard copies (within availability in stock), please contact: info@marineboard.eu

Annex 10: Marine Board Secretariat 2012

Marine Board Executive Scientific Secretary:

Dr. Niall McDonough

Administration and Coordination Officer:

Ms. Dina Eparkhina

Science Officers:

Mr Jan-Bart Calewaert

Dr Nan-Chin Chu (from August 2012)

Ms Maud Evrard (until June 2012)

Dr Kate Larkin (from February 2012)

Annex 11: Glossary

CESA	Community of European Shipyards Associations
CETMAR	Centro Tecnológico del Mar (Spain)
CIESM	Mediterranean Science Commission
CIMAR	Centre of Marine and Environmental Research (Portugal)
CNRS	National Centre for Scientific Research (France)
COST	European Cooperation in the field of Scientific and Technical Research
CSA	Coordination Support Action (EU FP Scheme)
CSIC	Spanish National Research Council
DG MARE	DG Maritime Affairs and Fisheries (European Commission)
DG	Directorate General (European Commission)
EAS	Estonian Academy of Sciences
EC	European Commission
EMAR²RES	EU FP7 CSA <i>Cooperation between the Communities of European MARine and MARitime REsearch and Science</i>
EMSEA	European Marine Science Educators Association
ERA-NET	European Research Area Network (EU FP Scheme)
ESDP	European Scientific Diving Panel (Marine Board panel)
ESF	European Science Foundation
ESOF	Euroscience Open Forum
EU	European Union
EurOCEAN	European conference series on Marine Science and Technology
EUROFLEETS	FP7 I3 <i>Towards an Alliance of European Fleets</i>
EUSA	European Union Strategy for the Atlantic
ExCom	Marine Board Executive Committee
FCT	Science and Technology Foundation (Portugal)
FP	EU Framework Programme for Research and Technological Development
FSB	Future Science Brief (Marine Board instrument)
GES	Good Environmental Status
HCMR	Hellenic Centre for Marine Research (Greece)
I3	Integrated Infrastructure Initiative (EU FP Scheme)
ICES	International Council for the Exploration of the Sea
Ifremer	French Research Institute for Exploitation of the Sea
IMBE	Mediterranean Institute for Biodiversity and Marine and Continental Ecology (France)
IODE	International Oceanographic Data and Information Exchange
IP	Integrated Project (EU FP Scheme)
JPI	Joint Programme Initiative
KBBE	Knowledge-Based Bio-Economy
MARCOM+	EU FP7 CSA <i>Towards an Integrated Marine and Maritime Science Community</i>
MarineBiotech	EU FP7 CSA <i>ERA-NET Preparatory Action in Marine Biotechnology</i>
MarinERA	EU FP6 ERA-NET project <i>Facilitating Cooperation between National Marine RTD Programmes in Europe</i>

MARUM	Centre for Marine Environmental Sciences (Germany)
MBCP	Marine Board Communications Panel
MINECO	Ministry of Economy and Competitiveness (Spain)
MPI-Bremen	Max Planck Institute for Marine Microbiology
MSFD	Marine Strategy Framework Directive
MUMM	Management Unit of the North Sea Mathematical Models and the Scheldt estuary (Belgium)
NERC	Natural Environment Research Council (United Kingdom)
NIOZ	Royal Netherlands Institute for Sea Research
NOC	National Oceanography Centre (United Kingdom)
OGS	National Institute of Oceanography and Experimental Geophysics (Italy)
PERSEUS	EU FP7 project <i>Policy-orientated marine Environmental Research for the Southern European Seas</i>
PISCES	EU FP7 project Partnerships Involving Stakeholders in the Celtic Sea Ecosystem
R&D	Research and Development
RCN	Research Council of Norway
RFO	Research Funding Organization
RPO	Research Performing Organization
RTDI	Research, Technology Development and Innovation
SA	Support Action (EU FP Scheme)
SAMS	Scottish Association for Marine Science (United Kingdom)
SEAS-ERA	EU FP7 ERA-NET project <i>Towards Integrated Marine Research Strategy and Programmes</i>
SICA	Specific International Cooperation Action (EU FP Scheme)
SIS	Science in Society (EU FP Scheme)
SPIRAL	EU FP7 project Interfacing Biodiversity and Policy
STAGES	EU FP7 CSA project <i>Science and Technology Advancing Governance of Good Environmental Status</i>
SUBMARINER	<i>Sustainable Uses of Baltic Marine Resources</i> (Baltic Sea Region Programme project)
TP	Technology Platform
TÜBITAK	Scientific and Technological Research Council of Turkey
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-IOC	Intergovernmental Oceanographic Commission of UNESCO
USA	United States of America
VLIZ	Flanders Marine Institute (Belgium)
WEGEMT	Western European Graduate Education in Marine Technology
WG	Working Group (Marine Board Instrument)
WG MICROCEAN	Marine Board Working Group <i>Marine Microbial Biology</i>

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