



**Note of the second meeting of the Oceans 2025 Programme Advisory Board 1-3
June 2009 in Liverpool**

Monday 1st June – PAB meeting 11:00 – 12:15

Members Present

Professor Peter Liss CBE, FRS, (Chairman), Dr Mike Bell, Richard Burt, Professor Mike Cowling, Professor Stephen Hawkins, Professor Dan Laffoley, Dr Stephen Malcolm, Ian Townend, Dr Bill Turrell.

With Mrs. Jacky Wood, National Marine Coordination Office, NOCS (Secretariat).

Apologies

Dr Serge Heussner, Dr John Locke, Professor Jan de Leeuw, Dr Mike Neilson.

In attendance

Professor Ed Hill, Professor Stephen de Mora, Professor Colin Brownlee, Professor Peter Burkill, Professor Ian Boyd, Professor Andrew Willmott, Dr Phil Williamson.

Opening

Professor Liss opened the meeting and welcomed participants. He reminded them that the Board existed in an Advisory Capacity to inform the Programme Executive Board. Members of the Executive Board were in attendance for this session.

Item 1 Minutes of first meeting and actions arising

1. The minutes of the first meeting had previously been circulated and were agreed.

Matters arising (not covered elsewhere on agenda)

2. Minute paragraph 3 Secretariat to produce revised Terms of Reference. Action Discharged. See also Item 2 below.
3. Minute paragraph 7. Secretariat to circulate slides of Dr Williamson's overview presentation. Done June 2008, action discharged.
4. Minute paragraph 12 Secretariat to make the policy on transparency, conflict of interest etc publically available. The policy is downloadable from the Oceans 2025 website on the governance page. Action discharged.

5. Minute paragraph 13 Members to provide brief biographical details for publication on the Oceans 2025 website. Action discharged.
6. Minute paragraph 14 Eligible members may claim for T&S in accordance with the NERC policy. Action discharged.
7. Minute paragraph 24 Invitation to Board members to propose additional members in particular to strengthen international membership. None had been suggested between meetings. The chairman reiterated this invitation. Action ongoing.

Item 2 Revised terms of Reference

8. The revised Terms of Reference were noted. The ToR had been enhanced to include explicit reference to the role of the Board to alert the Executive Board to opportunities to enhance national and international impact of the programme and outreach and to changing needs of the community and the status of marine science nationally or internationally. These ToR had been circulated after the meeting, agreed by the Chair and then published on the Oceans 2025 website. The Chairman reiterated that there was scope to invite additional members to the board and that suggestions were welcome. **Action Members**

Item 3 Presentation of the Annual Science meeting agenda, aims and logistics.

9. Dr Phil Williamson gave an overview of the aims, objectives and format for the meeting. He noted that the organizers had followed the advice of the PAB in opening up the meeting to the whole Oceans 2025 community (of which he estimated that approx one quarter of the number of researchers directly involved in the programme, including SOFI researchers and studentship holders, would be present in Liverpool). Invitations had also been sent to a range of other stakeholders, in NERC centrally, in BGS, BAS, CEH, other academics, key Government department representatives, the NERC theme leaders, to IMarEST and other representative bodies. Slides to be circulated. **Action Secretariat.**
10. Members of the Programme Advisory Board agreed on presence at the various parallel sessions to ensure that at least one PAB member was present at each session.

Item 4 Overview of recent external developments and their impact on the Oceans 2025 programme.

11. Professor Ed Hill as Chairman of the Oceans 2025 Executive Board gave a presentation that highlighted key external developments during the previous year. These included the establishment of the cross departmental Marine Science Co-ordination Committee (MSCC) with its explicit remit to develop a UK marine science strategy by end of 2009 and the work of NERC's National Capability Advisory Group (NCAG) which was in the process of undertaking a portfolio

analysis of capability, needs and gaps across the NERC sectors of marine, earth observation, atmospheric, terrestrial and freshwater, polar and earth system science. He explained the outcomes of the NERC ship management review, including the scope for more coherent scheduling and operation of the NOCS and BAS operated fleets. He also noted the interactions of the Oceans 2025 community with NERC theme leaders in the development of their theme action plans in 2008 and 2009 and the concerns in the community with regard to the opening up of 'funding gaps' as Oceans 2025 follows the funding transition ramp down and calls for new research programmes come on stream. Oceans 2025 was ramping down by 4% funding in the present financial year, this would increase to 14% in 2010/11. The concerns of Directors on the long term health of the science and their ongoing capacity to maintain staff resources had been raised with NERC through the new CARP process of annual business planning, and through other routes. Directors had been engaged with NERC at the highest levels to ensure that this issue was recognized.

12. It was also noted that a review of the strategic mapping of research and operational capabilities and needs for MoD and NERC was underway as part of the high level Cooperative Arrangement for Research on Oceanographic Science (CAROS).
13. In discussion on the ship management review outcomes several Board members cited their own experiences of outsourcing vessel operations – some positive and some with concerns. The findings of the NERC review had been that outsourcing was not the right approach at the present time, however this did not rule out reconsideration of the options in the future. The review had also concluded that there was no case for NERC to pursue ownership of a coastal/sea shelf vessel at the present time. The Board was concerned that this view did not take account of any wider national interest or other potential users. It was confirmed that consideration was ongoing elsewhere to scope the fleet of non-NERC vessels and the opportunities for barter. In addition a study under the Scottish MASTS initiative was being progressed to look at ship requirements and supplies; this might also reference the wider UK needs and capabilities.
14. In relation to the ramping down of funding as part of the NERC FAB transition process the Board questioned the vulnerability of Centres and the ability of the programme to meet its objectives. They also questioned how NERC was responding to short term financial constraints in the light of the current economic climate. Professor Hill cited the pressure of the Pound/Euro exchange rate as a particular pressure, and the need for short term savings in the National capability and related infrastructure budgets. Professor Boyd pointed out the different effects these savings had in relation to the size of Centres and their ability to maintain overall capability.

Recommendations of the first meeting of the Programme Advisory Board and Director's responses.

15. Programme Advisory Board members discussed the extent to which the recommendations made in 2008 had been addressed, with particular reference to the letter to NERC from the Chairman of the Board and the response from Professor Alan Thorpe, Chief Executive NERC. It was decided to defer substantive discussion on FAB transitioning (recs. 1 and 10) and on the evaluation of the Oceans 2025 programme (rec. 2) until the NERC Ex Officio Board member was present. Professor Hill noted that the work of the Programme Advisory Board in raising these issues with NERC had been appreciated by the Executive Board.
16. The Board welcomed the development of the cross programme risk register (rec. 3). There was a perception that the international dimensions of the programme were still undersold (rec 4) and it was not clear how Oceans 2025 was e.g. leveraging European initiatives and funding. The Board noted the communications strategy which had been developed since their last meeting (rec 5) but remained concerned that insufficient resource was available to ensure that the achievements of the programme were being highlighted and transmitted to policy makers and other stakeholders in appropriate terms.
17. The Board was pleased that the community had engaged with the Google Earth Oceans project (rec. 6) and noted the scope to extend this further. They also welcomed the workshop activity in relation to coastal observatories and the engagement with policy makers through UKMMAS and other routes. They agreed that issues around the access to data held in trading funds status organisations (rec 8) was not within the direct remit of the Oceans 2025 Executive Board to address but encouraged the Board to ensure that the MSCC was aware of the concerns.
18. The Board welcomed the way that the SOFI workshops were now facilitating the development of engagement with the wider community. The Secretariat confirmed that discussions with NERC, the Science Coordinator and NMCO on the criteria for the scheme had enabled this.

Item 6 Policy on transparency, conflicted of interest and related matters.

19. The Board noted the policy, which had not been changed since the first meeting.

The meeting closed at 12:15. Following lunch the Board then attended the first day of the Annual Science Programme meeting.

Tuesday 2nd June PAB meeting 17:30-18:30

Members present

Professor Peter Liss (Chairman), Dr Mike Bell, Richard Burt, Professor Mike Cowling, Professor Stephen Hawkins, Professor Dan Laffoley, Dr Stephen Malcolm, Phil Newton, Ian Townend, Dr Bill Turrell.

With Mrs. Jacky Wood, National Marine Coordination Office, NOCS (Secretariat).

20. Following attendance at the plenary and parallel sessions of the Annual Science meeting the Board then met in private (PAB Board members only).
21. The Board reflected on the broad scientific coverage of the Oceans 2025 programme and emerging areas of interest in relation to stakeholder interests, whilst noting that the role of the Board did not extend to formally evaluating the science. They agreed that there would be advantage in extending membership to facilitate links to the Arctic (e.g. Norwegian/Svallbard/Nansen Centre) **Action Members to suggest potential invitees.** The Board recognized the huge increase in molecular techniques being applied across the Centres but felt that the associated knowledge necessary was available within the current full membership of the Board. The Board discussed the various existing linkages into Defra – including its Science Advisory Council and the UKMMAS and called for a clarification from Defra of the existing representation. **Action Secretariat.** They considered there would also be value in inviting a representative of the Secretariat of the Marine Science Coordination Committee to join the PAB, with Rebecca Cowburn being identified as a suitable candidate. **Action Secretariat.**
22. The Chairman invited Board members to review their interactions with the programme over the previous year. These ranged in extent and ‘depth’ but had included direct visits, engagement through processes such as the UKMMAS, working on projects such as the Western Channel Observatory and Liverpool Bay Observatory, engagement with the technology development activities, predominately at NOCS but to some extent with the other Centres, formal links through the National Centre for Ocean Forecasting (NCOF) network and Centres’ own programme and advisory boards (NOCS, MBA, SAMS).
23. Overall the board thought that they were reasonably well sighted on the development of the programme and agreed that there had been a welcome step change in the degree of interaction between the Centres that had not been happening previously. Continuation and enhancement of this interaction was to be encouraged.
24. The Board welcomed the consistently high quality of the presentations given at this 2009 Annual Science Meeting, which related also the significant progress and quality of the science. Linkages and acknowledgments were emphasised more than in previous years’ meetings. They recognized that this format of presentation of highlights gave only a snapshot of progress but it was clear that the programme

- had become ‘more than the sum of its parts’ and that UK capability across a range of research areas had significantly improved. However the Board felt that more should be done to fully capitalize on the progress and integration of the programme, in particular to ensure that highlights have been extracted and are disseminated at high level of seniority and intensity to programme stakeholders, esp. in policy Departments.
25. The Board welcomed the progress in development and usage of new marine technologies across the programme. A breadth of developments were occurring in support of the programme objectives and spreading across and within the themes, with at-sea usage. However, it was felt that there was potential for the SAMS developed technologies to be better known and their cross programme usage to be enhanced. Overall the PAB noted that none of the presentation thus far had suggested that research was being held back through lack of technological development.
 26. However the Board had received reported evidence of the science being held back through ship time rescheduling and its knock on effects that need to be addressed by the Executive Board with NERC. Dr Newton noted that the benefits of additional refit and maintenance to the RRS *Discovery*, with associated improved reliability, and the moves towards greater integrated planning of the NOCS and BAS ships with associated flexibility of usage could actually benefit the community within the 2012 timeframe of Oceans 2025. There were also short term opportunities to barter, though this led to a credit/debit situation which did not address the issues longer term. The Board remained concerned as to whether the programme overall had slipped in terms of its roadmap and how critical any slippage might be as the programme went into the FAB transition process. This was a potential risk that the Executive board needed to be mindful of and to manage actively. The Programme Advisory Board recommended a mid term ‘health check’ should look in particular at the cruise scheduling and the knock-on impacts of rescheduling.
 27. The Board was pleased to see how the various observation activities in the programme were becoming more coherent. This was welcome at the national scale for visibility and to ensure sustainability.
 28. There also appears to be the beginnings of two modelling traditions joining together to bring work on open ocean and sea shelf. The programme was addressing real ecosystems in the open ocean and this was a very positive achievement of Oceans 2025, particular this applied in biogeochemical cycling where state of the art genomics processes were being used to get to the core of rate limiting factors, especially at the membrane level. The Board recommended that there was scope to share knowledge across the programme, to ensure that effective links were made between the Plymouth groups and those at SAMS. The Board felt that a subsequent plenary Oceans 2025 meeting could highlight science impacts by inviting a small number of talks that take a broad overview across

- programme areas and Centres activities, for example looking at the scientific findings and highlights from molecules through cells, individuals and populations to communities and ecosystems.
29. The Board welcomed the great progress that had been made by the PML team in developing a platform for data visualization that met the scientific needs of the programme, i.e. over and beyond that which could be provided for 'outreach' type activity using the Oceans component of Google Earth. However, the Board had not been convinced in the presentation that the longer term issues associated with the intended roll out and uptake of the portal across the Oceans 2025 community had been fully addressed. It was not clear in the presentation how the portal would be implemented and operated in the longer term, or how it linked to related BODC activities. There was also a need to ensure that the group was developing the sorts of tools and products that end users such as Defra/GMES and other stakeholder communities would require. The Board recommended that engagement with the MEDIN network would be helpful in this regard.
30. The Board noted the growing achievements of the SOFI initiative in assisting with cross centre integration and the bringing into the programme and cementing relations with others from the wider UK marine science community. The SOFI investment appeared judicious and to represent good value for money.

Wednesday 3rd June PAB meeting 12:45 – 14:15

Members present

Professor Peter Liss, (Chairman), Dr Mike Bell, Richard Burt, Professor Stephen Hawkins, Professor Dan Laffoley, Phil Newton, Ian Townend, Dr Bill Turrell.
With Mrs. Jacky Wood, National Marine Coordination Office, NOCS (Secretariat).

31. The Board discussed knowledge exchange and the necessity to ensure that the science developments were communicated and transitioned into policy outcomes. The annual meeting had captured programme breakthroughs and made them more visible – the question now was how to take this forward and ensure that use was made of findings. There was a role for each PAB member to play a part in this but also a need for the key messages from the programme to see captured in a way that could be communicated. Effective Knowledge Exchange was essential and would benefit from additional effort at programme level. The Board would recommend that more attention to be given to this, with the suggestion of an annual strategic cross Oceans 2025 report being one outcome. It was also suggested that the Annual Science Meeting might be structured to include a focused policy/stakeholder session. Key stakeholders and representatives such as JNCC, Environment Agency, CCW and others could engage directly with the programme whilst not having to commit to the full duration of the Oceans 2025 Annual Science Meeting lasting over several days. In addition the engagement of Defra with the programme, through the marine teams, the Chief Scientist office and the MSCC Secretariat might be enhanced through a more specific session.

32. The Board considered their own views, and reported comments of others on the effectiveness of the marine science strategy development sessions held on the Tuesday of the Annual Science meeting (the 'key science questions'). Though these brief sessions had only been able to skim the surface and gather a range of individuals thoughts, together the sessions had potential to serve two key purposes – to inform the immediate development of the UK strategy/MSCC and to be a basis for longer term synthesis messages to feed into the NERC strategy update process and the development of initiatives post the Oceans 2025 programme. It would not be appropriate to repeat these sessions in the same format next year; however the use of breakout groups should be encouraged. Topics to be addressed could include how to tackle the question of the valuation of marine science developments to society, to review some other science to policy transiting mechanisms and to match the science to policy frameworks based on a pre-assessment of the key polices and their needs for scientific underpinning.

FAB transitioning

33. Board members reiterated their concerns on the implementation of the FAB process and its impact on the Oceans 2025 coordinated programme, as expressed in recommendations made in 2008. In response Dr Newton, on behalf of NERC, commented that the development of the Oceans 2025 programme has been in line with the spirit and intention of NERC Council. The first programme of work – from 2007-12 has had a huge impact as the seven Centres changed from a series of 5-yearly closely focused individual programmes to a regime of working in the context of one coordinated programme. Council wanted to build on this coordination and strategic oversight as the future funding scenarios developed and discussion were ongoing with Centre Directors on this transitioning.

34. As part of the FAB transition the National Capability and Research Programme elements of the Oceans 2025 programme had been identified. It was planned that NC funding would be allocated in longer timescale commitments in future, giving reassurance to the community that these capacities will have a long term funding stream post 2012. Over 50% of the current Oceans 2025 programme is categorized NC. In the implementation of FAB NERC did not want to compromise the Oceans 2025 achievements; the intent was to optimize cohesion and to deliver the NERC science strategy in a way that balanced collaboration and competition to ensure that the highest quality science was funded. Dr Newton reminded the Board that it had been a criticism in the past that the work in the Centres had not been tensioned against other potential research providers. The FAB process had demonstrated the heterogeneity of NERC's funding portfolio. It had helped NERC in its conversations with DIUS and others to demonstrate the long term requirement for the Centres and their importance. The NERC theme leaders in formulating their theme action plans were necessarily taking a 'thematic' cross cutting rather than sectoral approach to research programmes,

- recognizing that responsive mode funding alone could not deliver the strategic science required.
35. Dr Newton acknowledged that the FAB change was large and complex. NERC Centre Directors and their teams had been part of the development process for the FAB project and discussions continued to ensure that the overall implementation was worked through in a way that was fair. A key challenge was to ensure that dialogue was underway to ensure that the Theme leaders, working with the Centre Directors and Swindon team had visibility of the research and capability that was already in the Centres and which was needed to underpin long term research. The issues had been set into sharp focus by the Oceans 2025 programme. Increased dialogue and information exchange together with NERC action to address concerns about Centre sustainability were being taken forward with a paper soon to be sent to NERC Science and Innovation Board outlining a proposed way forward. NERC was taking this very seriously as to get it wrong would compromise the ability to deliver the NERC strategy. Post 2012 he hoped that the alliance of the marine Centres would remain and become even better at delivering strategic marine science.
 36. In discussion the Board highlighted their concerns about the 'phase lag' between the Ocean 2025 programme ramp down and the coming on stream of new calls in the NERC Theme action plans. Dr Newton noted that the issue was recognized and that NERC Council had agreed an element of funding would remain in the short term to assist the Centres in developing their proposals. The annual Business planning (CARP) process would ensure that the Centres had an opportunity to highlight areas of concern and a number of safeguards were being considered.
 37. The Board asked whether Oceans 2025 should have to re-profile its deliverables in view of the ramp down. It was acknowledged however that as an inevitable evolution of a science programme over 5 years some changes could be expected. However, would any deliverables be dropped because of the funding shortfall? The Programme Advisory Board might be able to advise Directors in such considerations. The PAB would recommend that a mid term risk assessment on the deliverables be undertaken so that any re-prioritizing or consolidation could be addressed in a strategic way and that this also give opportunities to remediate any funding losses- for instance by forming strategic partnerships under the EU Framework programme.
 38. The Board noted that the Oceans 2025 programme was working well currently because of the developing culture of trust between the Centres; this was a cultural change that should be welcomed. It would be essential that the future funding model did not unpick this. The Board noted that the alliances that had previously been very evident at the level of the Centre Directors were increasingly being echoed by senior researchers. The marine science community was good at working collaboratively across the science/policy disciplines – and this would be even more important as the theme action plan challenges – such as the new Ocean

Acidification programme – came on stream. However, overall the success would depend on how much funding was available.

Evaluation

39. The Board recalled their recommendation in 2008 in relation to programme evaluation and the exchange of correspondence with Professor Thorpe. The Board strongly believed that there were two key drivers for post programme independent evaluation – the public interest argument and also from the scientific perspective, the need to ensure the achievements and benefits of the science were acknowledged and to steer future research investments. Dr Newton explained that NERC had adopted a revised approach to evaluation that did not require each science programme or project to be independently evaluated – this was a costly and expert intensive process. Instead NERC now sought to ensure strategic evaluation, perhaps across programmes or themes, when there was a specific need or policy driver or to answer specific questions. The NERC Evaluation Advisory Group had been established to advise NERC Council on requirements, taking a strategic and forward looking approach across NERC’s investments. At the present time there were no foreseen needs to independently evaluate the Oceans 2025 science per se – though parts could be addressed in the context of other evaluations.
40. The Board noted that Oceans 2025 was undertaking great science in a novel way and its outputs had implications for science and policy development. The Board considered that what was achieved should not be lost. They felt that consideration should be given to evaluating the novel approach of cross Centre working as a possible model for other NERC funded programmes, and potentially also the management aspects, science outputs and their relation to policy development. To some extent programme reporting, through a significant end of programme report/event could be expected to highlight this. The Executive Board should be encouraged to consider what additional evaluation activity might be helpful.
41. The Board was aware that the coordinated management of Oceans 2025 was deliberately light and with little supporting coordinating resource - they did not want to put additional burdens on the Executive Board. On regular annual reporting the Board agreed that the update of the implementation plan, together with the presentations gave them adequate oversight – they did not require additional documentation specifically for reporting progress. The Secretary to the Board noted that the Centres participate fully in the NERC Research Outputs Database process, reporting annually against a range of statistics and achievements at the level of the individual Oceans 2025 themes. Therefore the appropriate metrics are being captured that could form the baseline for any future evaluation. National Capability achievements were also captured.

Future meetings of the Programme Advisory Board

42. The Board felt that the structure of their meeting, in several sessions, alongside the annual science meeting had been helpful but that more time for discussion would have been useful. This should be considered in the planning for the 2010 event. **Action Secretariat.** The Board felt there was also some scope to meet in year if necessary – for instance once the recommended mid-term review of the programme had reported.

43. The Board agreed to finalize their recommendations by correspondence. **Action Secretariat.**

J Wood NMCO 9 June 2009, revised 5 August 2009.