

**NATIONAL MARINE BIOLOGICAL AQC SCHEME / BEQUALM
18/04/2013 teleconference, 10:00-15:00**

Teleconference details – Participants call into BT Meet Me number:
0800 032 9811 then enter the participant code: 19005820#

Attending: Tim Mackie (TM, outgoing Chair, NI EA), David Johns (DJ, incoming Chair, SAHFOS), Mandy Prior (MP, Finance Manager, EA) Myles O'Reilly (MoR, SEPA), Claire Mason (CM, CEFAS representative), Richard Arnold (RA, Contractor), Carol Milner (CMi, Contractor representative), Keith Cooper (KC, CEFAS), Clare Scanlan (CS, SEPA), Astrid Fischer (AF, Technical Secretary SAHFOS), Matthew Green (MG, Natural Resources Wales) and Jim Ellis (JE, CEFAS, for the fish component only)

Apologies: Joe Silke (JS, MI), Rafael Salas (RS, MI), Gavin McNeill (GM, AFBI), Keith Cooper (KC, CEFAS).
David Johns has to leave the meeting between 11.00-12.30

Actions in red.

TM opened the meeting by welcoming David Johns to NMBAQC, and thanking the committee for all the support they have given him over the years. Being the NMBAQC chair can be a challenging post, but you are aware of the issues. I am sure the committee will support you. Can you give a brief introduction of yourself to the committee?

DJ: I work at SAHFOS and am the laboratory manager since October last year. I have been in marine science all of my career, and have specialised in plankton analysis, management, health & safety issues and quality control, including standardising procedures, which fits with NMBAQC quite well.

Last Meeting Actions

Astrid:

- Send information about Estonian laboratory to MP. *Done.*
- Contact Emma Wells and CS to chase up Macroalgae certificates.
Clare is working on this.
- Ask CS what she means with regard to taxonomic literature list as searchable list formats may be more complicated to produce. *"I simply meant a list, plain and simple, not a searchable database. We would not claim that this list was exhaustive."*
- Start writing a 'Best practice' document using MESH guidelines.
Epibiota teleconference 17 April and take it from there.
- Gauge interest for fish and for macroalgae workshop in year 21. *Will include with Yr 20 note.*

Myles:

- Chase up agencies to see if they agree with the fail/pass on the audit reports for invertebrates. *Outstanding.*
- Send taxonomic database to TM by email to see if this is an option to send it to participants. *Outstanding.*

Tim:

- Forward copy IQI to CM. *Done.*
- Forward courses to AF for inclusion as news item on web site. *Outstanding. AF: Can anyone please send news items for the web site.*
- *RA: what type of news items should we send? AF: Courses, legislation, anything of interest to NMBAQC community. TM: new taxonomic keys, if there is anything you are using than the information should be out there.*
- Send an email out to all participants to confirm continuity of the NMBAQC scheme. *Done.*

Claire:

- Test IQI tool with different sediment compositions and come up with IQI levels of significance that we could then use to determine biological (IQI) significant limits for PSA ring test. *Partly done, see discussion under PSA update.*
- Ask a few fish people in CEFAS to see if they are interested in becoming involved in the NMBAQC. *Done, Jim Ellis will be joining the teleconference for the fish component.*

Richard:

- Chase up outstanding submissions Benthic Invertebrates. *Done and this is an ongoing process. Have sent benthic bulletins yesterday.*
- Look into outstanding bulletin RT42. *Bulletin is not outstanding, is already available on NMBAQC web site.*

Carol:

- Send TM some videos and supporting assessment. *Is awaiting permission for release of material. Outstanding.*

Mandy:

- Reply to email from Andy Walker regarding access for AF to NMBAQC web site. *Done.*

Action All

- Agree contributions for NMBAQC Information Note / Application form for Year 20 2013/14 and send to AF for inclusion. *Postage issue needs to be addressed. On agenda for meeting.*

Priorities from HBDSEG

DJ has spoken to Roger Proudfoot. Roger asked for the Year 18 Annual report. AF has made a start on it, but the benthic invertebrate component and epibiota component are missing. TM: Nothing happened with the epibiota component in year 18, I had tried to set up a free ring test together with James Strong but this has not taken off due to other commitments.

MoR/ RA: the own sample report, module report and the whole component is in progress, and should be ready in 2-3 weeks.

Roger also asked for the initiation of a saltmarsh component and a zooplankton component. TM: all the costs of the QA components have to be covered by the participating laboratories; therefore the cost of a component can be critical to the scheme. The costing of a component has to make sense. TM has had a conversation with Defra before to ask if they can fund QA upfront, but this has not been possible. We need to continue to argue to place the funding of QA upfront, as the risk of the scheme collapsing is very real if we stretch ourselves too far. For some components if a single laboratory drops out then the component may no longer be financially viable. CS: No one has looked at saltmarsh habitats apart from the Environment Agency. We do need to start thinking about this, although it is early days. MP: We are writing a guidance note on aerial imaging of saltmarshes, including quality assurance of mapping and ground truthing side. We are not looking at species identification skills. TM: in the guidance document identification needs should be touched upon. CS: seagrasses are overlapping with this. TM: PSA is used for underpinning the biological components. Is aerial saltmarsh mapping underpinning the biological components there? DJ: this is something we should look into. CS: it is being used by Defra for conservation studies. **Action AF to identify the people involved.** CS: Will check out what is happening with that, and get the biological mapping standards in RS groups. AF: there has also been a question from the HBDSEG technical secretary if we are updating the Prue Addison Best Practise document? MP: there is no intention of updating it. MG: There are some new British Standards, so this could be included. TM: this should just be updated on the NMBAQC web site. MP: you can add shortcuts to the BSI library. **Action MP to let AF know which BS are available.**

Phytoplankton update

The registration for the phytoplankton exercise in 2013 is now closed. There are similar numbers of laboratories participating to last year. There are 28 laboratories and over 40 analysts registered. New laboratories from France, Italy, Singapore, USA and Australia taking part this year. The next step is to contact participants and organise the materials for sending to all the participants. This will take place in May.

Also, this year, we have new additions to the scheme. An advisory group has been formed and it is overseeing the design of the exercise. The Marine Institute is setting up an homogeneity and stability test for the method following the guidelines of ISO13528 on statistical methods for proficiency testing schemes to test the homogeneity of the materials sent to the participants and the Marine Institute is looking at the technical requirements needed in order to accredit the Bequalm scheme under ISO17043 in the future.

TM: Thanks to Joe and Rafael for the update.

PSA update

RA: The PS44 and PS45 reports have been completed and are up on the web site. The circulations of tests sent out in February have just been returned; we have received 11 out of 12, and have just sent a reminder for the outstanding sample. We are making progress with the outstanding year 19 tasks.

Discussion on IQI tool (new Version currently out for consultation)

TM: Claire, have you had a look at the IQI tool? CM: I have seen the IQI tool and Paul and I have put some sediment types in. There are not enough rows in it for a standard type PSA classification. Why is gravel condensed in 1 or 2 categories? It is fine for sand, there are 8 categories there. TM: There are some issues with PSA in the IQI tool. MoR: I'm not sure if there is a formal consultation on the tool, I'm getting odd sample results. TM: It is not yet inter-calibrated from estuarine samples, but I'm also getting funny readings from my data. MoR: I'm also getting samples with an IQI values bigger than one. TM: If the number of species is less than 10, the tool falls over. MoR: It would be good if CM can have a look at this, how to set the quality limits or pass/fail for PSA to provide robust input data for the IQI tool. TM: Regarding quality assurance, we should look into the tolerances that are appropriate to set a pass/fail to inform PSA classification. E.g. if the PSA is 10% out, is this too big a tolerance to impact the IQI? MP: Tim, Graham and Claire should have a teleconference about the IQI tool, to better understand the tool in relation to the work CM is carrying out. CM: how is the IQI tool set up? TM: Has had a conference call about this, and this was based on historical data. There is a two way split in PSA and IQI. One is how the model is populated by previous samples, if you are in the bell-size of the curve, you are generating self-fulfilling prophecies, but it could still be an impacted site. If you have a regular sample you have more samples to check with, but you still have the muddy sand/ sandy mud discussion. CM: I have only put the data in, but have not gone further than that, as the sediment data did not confer with the PSA analysis. TM: the Wentworth descriptions do not always put the sediment type in the right part of the triangle. CM: I'll contact Graham to find out how all this came about. Keith has been producing limits for disposal sites. We are also looking at a risk-based approach. TM: Graham is working on a Best Practise guide so all issues need to be addressed now. MP: the Best Practise guide needs to be completed asap. TM: It should be a living document as things will change. CM: we are now working on an optical guide as well. MG: We average our waterbody PSA data, and use the worked up data on all samples. TM: we use 5 biological replicates and supporting PSA's, so you have 25 iterations of combinations. We average these, and you can have as much variation between inter-graph samples as between subsamples. MG: do you separate the data from the graph? TM: The grabs are used quantitative. Bob Kennedy uses a similar non-destructive graph rather than a destructive grab for his samples. CM: There is also the off shore/ inshore difference, off shore you really do not want to take another grab due to loss of fraction. MG: Do you work up all the sediment and use the biology data somehow. CM: as long as you know what the proportions are, you can work it out. We know our limitations in coarse sediments. TM: do we need that level of accuracy or is a PSA tolerance of 10% acceptable? The IQI tool is based on a 0.1m² sample. There are a few agencies out there that do only biology, so we are taking multiple grabs. We would be happy to lose some data. CM: we generally only need one grab. For coarser sediment we would need bigger samples. MG: our historical samples come from day grabs. Is there a copy of Bob's paper on the NMBAQC web site? TM: I'm not sure.

Benthic invertebrates

RA: The year 19 ring test 43 report is on the web site and has been sent to participants. There was a slight hiccup with RT44 but it is now on track. There are 8 out of 23 returns to date and the deadline is approaching soon.

For the LR 5 out of 12 sets are returned to date. MoR: are reminders sent out? RA: Yes. TM: they have signed up for this component, so they should do this quickly. It should be a matter of time. RA: there is limited progress and we will be chasing the participants up again.

OS for year 18 and 19: we have 20 sets of samples received and are working through these. This is all on track.

MB20: Report is done, and is out for internal review. This should be ready in the next 2-3 weeks.

TM: some labs have been complaining that there is no Thomson Unicmarine tab option as a QA flag in Merman upload sheets for labs that have MMP samples. RA: This is an oversight on my part, and I will look into this. MP: Is this a new development, do they have to let the CMA know? TM: Is it not an option now? **Action MP: to speak to RA about QA flag needed for Merman upload sheet by CMA's.**

MP: If you send out a deadline for returning LR samples, it would be good to have a deadline in May as year 20 is about to start and in July the new samples will have to be send out. RA: I will do that. MoR: How are we going to send the taxonomic database out? RA: This can be sent out as an html reference. There has been some work done on it recently. I will ask Nigel for a recent copy and then email it to Myles. MoR: If it comes to me by email I will be able to forward it to Tim and to email it to participants.

Action AF to create a participants area on the web site (ask advice from Cefas on how to create this).

Macroalgae

CS: There are 8 laboratories participating in the ring test. We have had one issue which will get resolved soon. TM: Is this different to previous years? CS: for the macroalgae seagrass test 12 laboratories have signed up versus 13 last year. All the samples have been sent out. For the biomass component 11 laboratories have signed up, including the Estonian lab. These samples are about to be sent out. We will issue certificates this year and will be using the template sent by MoR for the invertebrate component. We are unsure if we want to include the year of joining, or number of years participating, does this matter? TM: For professional development this will have to be an annual pass/fail. CS: We are only going to add a fail/pass, with +/- 2 z-scores as acceptable. For rocky shore you can only be right/wrong, so it will be classed as a percentage of the number of samples. It will be used as a guideline only. Will the data for the participants also have to be submitted to the national database? TM: are you submitting to a national database now? CS: yes, to the WFD. There is currently no formal database, such as Merman, for the submission of rocky shore algal records, or for macroalgal blooming data. **Action CS to send a draft to the whole committee.** CS: another issue is taxonomic keys. Can we have unpublished keys on the web site without full permission of the authors? TM: only when the author has given consent. If you are in doubt of legitimacy, you can just give the reference and leave it up to the participants to find the reference. CS: But I'm sure that this will create

more information requests to us. **I will look into the reference list and send one with definite approval to AF for inclusion on web site.**

Also, the Field Guide to the British Seaweeds needs updating. Will there be any funding available through NMBAQC for this? TM: If you come up with some figures then DJ can take this forward with HBDSEG and the EA.

CS: Update on the Biological standards consult, which closed 28 February. There were very few comments on marine matters. Cefas and HBDSEG have commented on these. We have put together the comments and they should be up on the web soon. We are still working on finalising the methods. We need to get these signed off in June. The deadline for informing members of Parliament preparing formal Ministerial Directions is in November. The tools will hopefully be up on the web site in June too. MP: Basically what is also going up is excel spreadsheets, which will calculate both class and confidence in class. There are spreadsheets for all the plant tools, one each for rocky shore and for blooming opportunistic macroalgae, seagrasses, saltmarsh and phytoplankton (coastal phytoplankton & transitional). Each of these has to go through a Approval for Access process within the EA. CS: We've made some changes to the methods. We also need to revise some of the technical papers on the web. However, Janet Forbes who is currently updating the web site for UKTAG is being made redundant as of the end of May and SNIFFER is changing its focus, so it's not clear where admin support will come from. Marine science is being abandoned, and this affects other organisations too. Intercal still needs to finish. One of the methods also still needs to be finished and will carry on till probably 2016, though some methods should be completed before that. We are still awaiting some direction from Defra & UK admin; they need to direct agencies to coordinate this progress and ensure resources are made available for this work. TM: do we have a representative? The Joint Research Centre may be a different ball-game and put holes in the exercise. CS: the largest data centre holder, mostly the EA, was used to create the tools. The biggest problem is not having commitment from either the UK Admins or other member states. We will have another MTT meeting next Tuesday/Wednesday.

Epibiota update

TM: We have had a teleconference discussion about epibiota on 17 April. Part of the issue is assessing PSA and sediment type from video, which is difficult to judge. Does anyone take photographs of undisturbed sediments before they do a PSA grab? We have a good record of what the sediments looks like before it gets worked up, and we could circulate these images from surface shots to see what everyone assesses these as, and then sent out the PSA work-up later to compare. MG: we have some samples. TM: we are interested in sediment types that we haven't sampled ourselves. CMi: Cefas should have some and the Environment agency too. They definitely have the PSA analysis, not sure if they have the matching photos. TM: Does Cefas have any images? CM: When we take a Hammond grab, we tip the sample up, get a sample of the bottom and take a photo of the fall. TM: We are looking for still images of generic types of sediments. CM: We do have some photos from when the grab goes down. **Action all to send photos of sediment types to TM.** TM: the issue we are trying to raise is where forcing of an assessment may cause misidentification or a difference with the PSA analysis. We want to show that his potential source of misidentification exists. MG: It is useful to get

the different fractions from the lab in the Wentworth scale. You take a white piece of paper, take a sediment sample of each possible fraction on your scale, and then laminate it. This can then be used as a reference. We use these sheets in the field. TM: There is always the issue with muddy sand versus sandy mud. Also, mixed sediments tend to show up coarser in the Wentworth scale.

AF: the biggest issue from the meeting is that some of the guidelines in the British Standards are very coarse. There were quite a few contributions to the discussions, including from Cefas, National Oceanography Centre Southampton, JNCC, Natural Resources Wales. JNCC also have a range of tools on their web site including biotypes, sediment types. I am now awaiting everyone to send me their standard operating procedures and collate the results to help set up a best practise guide. TM: This will have to comply with MESH and ISO guidelines of course, but be more useful and practical, and to advocate quality assurance. To set up a ring test we would need to include own samples, and a contractor may take out this component as long as it is cost-effective. We could organise a workshop with a live assessment of video and everybody has to make an instant assessment. This will give us a clue on the range of what people are interpreting on videos. It could be in the style of an 'ask the audience' question in 'Who wants to be a millionaire'. You can get instant access to the results and do more in depth analysis with the information afterwards. The technology is out there for use. CS: will the workshop be open for everyone? TM: I hope so. It may be useful for contractors. MoR: Maybe you can advise. TM: Who is working on this at JNCC? **Action AF to forward JNCC email to TM with the people working on this.**

Fish update

Jim Ellis joined the teleconference. JE: I will start with NMBAQC in June/ July. I have done quality assurance internationally with widespread ID issues. We have more marine experience at Cefas but I have some colleagues with freshwater experience.

RA: We are up to date with this component. The report is circulated but there is still some discussion on the identifications. MoR: I'm making a few changes to the report to make it more interesting to highlight the very broad variety of fish submitted. I may send an interim report and then audit. We have some issues with dragonets etc and I would like to write a short paragraph on what we found with Dragonets. We found a dark colouration of a dorsal fin and opercular spines partly covered by skin. We don't have a definite ID on this species but possibly Reticulated Dragonet. JE: one issue with dragonets is that there should be visible distal spines. MoR: we can definitely see four opercular spines under our microscope. RA: this is interesting and useful. The samples for the RT have been sent and we have received 11 of the 19 samples back. We have sent reminder emails. TM: are the samples coming back? RA: we are chasing the samples up and setting deadlines. TM: are there any ID problems? MoR: we don't know yet.

Zooplankton update

AF has sent out a questionnaire to labs internationally involved in zooplankton analysis. MP: have you sent this to NMBAQC participants? AF: No, at the

time I did not have these. **Action AF to send the questionnaire to NMBAQC participants.**

Currently there is a general interest zooplankton quality assurance, with only 3% of the 36 respondents so far that have said they have no interest in it at all. AF is compiling the results and writing a report and we will take it from there. The questionnaire was sent out internationally, not just to UK laboratories.

TM: The Marine Institute in Ireland is accredited as a quality assurance institute for running phytoplankton exercises. Whoever is going to run the scheme for zooplankton will need to look into this. They can talk to the Marine Institute on how to set up the accreditation.

NMBAQC information note/application form for Year 20

Postage issue: This is partly due to the Thomson Ecology Ltd contract with TNT. RA: is investigating whether to continue to use TNT as a courier. TM: are there any alternatives? RM: there are not many to choose from. TM: the problem is the nature of the samples; it is an unusual product that you are carrying. RA: this is why we are considering continuing to use them. TM: in order to save money all Northern Ireland items are sent here. But some items are sent separately. Last time our samples had to be resent and it took us 5 weeks before we received the samples, which put us out for the return deadline. RA: yours was the worst of the lot, but we have now spoken to TNT and have had some assurances. AF: is it possible to send items in a different way, e.g. as limited quantities, so that it won't be classed as a dangerous good? CM: IMS is always considered a dangerous good, but you can send it as limited quantity. TM: do you still have a dangerous goods person? RA: We are training someone in doing the sending and packing of dangerous goods now. But the major costs are from the provider/transporter. TM: it may be worthwhile to check the assumptions TNT is using for your goods. RA: we will be investigating further and get back to you. **Action RA to investigate alternative transport suppliers.**

TM: We may average the costs per sample over the participants instead of making an exemption for geographical location. RA: we'd be happy to do either, the pricing is currently based on geographical distance from our lab. Has the pricing been discussed before? MP: I have no recall of it. The regional cost has been there because there is a regional cost. But whatever we do, it has to be decided before the end of April when the Year 20 note has to be sent out. CMi: Are people not going to sign up due to the costs? MP: in the first year we received some notes saying that people were unhappy, but last year we had no problems at all. CMi: It may not contribute to a great amount. CS: I had raised the issue as the additional postage was also included in the macroalgae component. We don't add it for the cover test. MP: it is only included for the biomass. CS: even for the biomass, it should only be an extra few pounds. TM: I think Emma sends her samples via Parcelforce. CS: yes, and the samples are not that heavy. It only costs circa 12-19 pounds. RA: I'm just checking that we are not talking about changing the postage for the eurozone. TM: If we are paying extra because the perception is that the goods are highly dangerous, then we would need to investigate if there is a real premium that needs to be identified. RA: I will look into this. Averaging the costs between all UK participants should not be a problem. TM: If you are already in conversation with TNT take into consideration that £55 postage for

a 5L polypropylene bottle is slightly expensive. RA: I will have a look into this. MG: How is the damage arranged with TNT, do you get compensation? RA: we've had samples where buckets have been damaged, and one case where virtually all samples from a core were destroyed, but we have been unable to claim compensation. TM: our samples are sent using Arco Tough Boxes. Our local recycling centre for car batteries uses these as well. They are really robust and if you double bag the plastic bucket the samples should be well contained. The boxes are virtually indestructible. I can send details if you are interested.

Action everyone to send further comments to AF by 23 April.

Annual report Year 18

HBDSEG have asked if we could produce the annual report for year 18 in time for their June meeting. If we can't, we can always give them the report for year 17. MoR: I can't remember seeing the year 17 report either, and it is also not very visible on the web site. Action Astrid to send out Year 17 and draft Year 18 report, and to make a separate section on the web site.

AOB

RA: In the meeting minutes the invertebrates workshop was mentioned. Will this be a beginners or a specialists workshop? TM: the guidelines are that we alternate between beginners and experts ones. RA: the last one was both, it had a beginner's part and an expert session. MP: the last one was supposed to be an expert workshop. RA: So for the next one this should be a beginner's one? We could run it over a weekend. TM: running it at weekends could be a problem for contractors, due to overtime issues. The expectation will be a beginner's workshop during the week. RA: if participants want a particular issue being addressed, then we can accommodate this. MoR: It should be a practical beginners workshop, being taught by Unicomarine staff. The Expert workshops always have invited speakers. We have a good system for this.

CM: I have a question raised by Fugro. They asked how the NMBAQC backlog was being addressed, particularly the contested ID's –I think it was RT37. They are also concerned with the inclusion of pelagic and epifaunal specimens in the current ring test.

MoR/ TM: These things do turn up in benthic samples so it is useful to have them in the Ring test. MoR: I have no recollection of a contested ID, but if you find out more, I will investigate.

CM: Fugro also felt the ring test should be used as a training exercises and you should not be deemed to have failed.

MoR: It is described as a training exercise. The score is simply an assessment of how well training is working, not a pass/fail.

Post meeting note CM: I investigated the issue of 'contested ID's' with Fugro and specimens of Leitoscoloplos/Scoloplos were sent to Andy Mackie at Cardiff Museum for checking as a result of spurious results and queries from RT39. This was back in 2010. They are just wanting an update on the outcome. I should imagine it is primarily because Leitoscoloplos/Scoloplos were included in the recent Ring Test.