

NATIONAL MARINE BIOLOGICAL AQC SCHEME / BEQUALM
Teleconference meeting 22nd April 2015, 10.00-15.00

Attending: Myles O'Reilly (MoR, SEPA), Claire Mason (CM, CEFAS), Clare Scanlan (CS, SEPA), Astrid Fischer (AF, Technical Secretary, SAHFOS), Mandy Prior (Meeting Chair, MP, Finance Manager, EA), Emma Verling (EV, JNCC), Roger Proudfoot (RP, EA), Contractors and contractors representative.

Apologies: Keith Cooper (KC, CEFAS), Tim Mackie (TM, NI EA), Rafael Salas (RS, MI), Joe Silke (JS, MI), Jim Ellis (JE, CEFAS), Matthew Green (MG, Natural Resources Wales), David Johns (DJ, Chair, SAHFOS)

Meeting Actions from 20 January 2015

Rafael

- take legal advice in the matter of obtaining the name BEQUALM. *Ongoing.*

Keith

- send the QA proposal of testing surveys instead of agencies to Astrid. *Ongoing.*

Astrid

- update the timetable on the web with the new dates supplied by APEM and Thomson. *Done.*
- put deepsea species for offshore monitoring on the agenda for the next meeting. *Done.*

David J.

- Contact everyone to get ideas on how we can set up a QA mechanism that works with our current financial constraints. *Done, and a teleconference has been held about this with Roger Proudfoot, Emma Verling, Colin Moffat et al.*
- Investigate if UoP would give permission to use their HD epibiota video/image files for an exercise. *Done, Emma Sheehan has granted us permission.*

Emma

- investigate setting up a private youtube channel. *Ongoing.*

Tim

- email David J about the effect of budget cuts so that David J can take this to HBDSEG.
- contact Defra to find out about monitoring programmes submitted to Defra and to find out areas of vulnerability.
- investigate with their organisations which would be the option their organisation is least uncomfortable with to share QA of video files.
- see if other NIEA department could get involved in the saltmarsh ringtest, when the final report on the current ring test is available.

Sarah

- draft a comment to the query raised about the fish component photographs and to draft a photograph protocol with Jim. *Done.*

Jim

- draft a comment to the query raised about the fish component photographs and to draft a photograph protocol with Sarah. *Done.*

Mandy

- discuss if a variation of the contract needs to be issued to drop the macrobenthic exercise in year 22 due to lack of interest, set up a teleconference to discuss this matter. *Done.*
- check wording about the macrobenthic exercise in the info note. *Done.*
- to distribute tender wording on the requirements for photographs. *Done.*
- discuss if the saltmarsh ring test could be an NMBAQC field test instead of a photo exercise with Tina/ Clare S.
- retender the macroalgae component with Clare S. *Done.*
- send old macroalgae tender to Clare S. *Done.*
- contact Roger Proudfoot to see if he has an address database for licensing authorities.

Claire Mason

- Check within Cefas that tender contracts, including those for universities, should provide a sampling and processing protocol as well as a QA specification). *Ongoing.*

David H./Carol

- To come up with transport guidance of samples (together with Myles and Paul Mcllwaine from Cefas). *Ongoing. There has been a draft from Paul Mcllwaine from Cefas- action Keith to look into this. Ongoing, a note on transport will be added to the revised process and requirement protocol.*
- Update the Benthic Invertebrate Guidelines for next year. *Ongoing, and will include information on transportation of samples.*
- Discuss if a variation of the contract needs to be issued to drop the macrobenthic exercise in year 22 due to lack of interest. *Done, the macrobenthic test has been dropped for year 22.*
- let Myles know which macrobenthic exercises are outstanding
- chase up Adriana and Bastian for the updated keys from the invertebrate workshop. *Done. Link to the new Syllidae paper from San Martin and Worsfold - http://zookeys.pensoft.net/browse_journal_issue_documents.php?issue_id=-1*

Myles

- Find if he has a word version of the Benthic Invertebrate Guidelines guide to send to David H. *Has sent an early draft to David Hall.*
- to investigate epifaunal targeted photo ring-test for fauna that are not included in grabs (e.g. rock associated species) using photographs with David Hall. *This is more an epibiota thing. Action Astrid to contact Emma about this, and to ensure that David Hall gets a copy of the epifauna analysis guidelines.*
- discuss if a variation of the contract needs to be issued to drop the macrobenthic exercise in year 22 due to lack of interest. *Done.*
- give a final chase up for the outstanding macrobenthic exercises otherwise samples will not be included in the ring test results. *Done.*
- ask Ruth from Thomson Ecology for the access database file with all the information of the scheme since its inception. *Done, awaiting reply.*

Clare S

- Chase up feedback on the seasonality of macroalgae sites and what can be found there to decide on a good location for a workshop. *Ongoing.*
- See if the macroalgae 2014 certificates have now been sent. *The 2014 certificates have been signed and have been sent out.*
- investigate with their organisations which would be the option their organisation is least uncomfortable with to share QA of video files. *Ongoing.*
- discuss if the saltmarsh ring test could be an NMBAQC field test instead of a photo exercise with Mandy/ Tina. *Ongoing.*
- send Astrid the reports for last year to include on the NMBAQC web site. *Done.*
- retender the macroalgae component with Mandy. *Done.*

Grant

- contact the deepsea species for offshore monitoring contractor to see if he would be able to provide specimens for a ring test for deep sea species and to assess how many labs would be interested in such a test. *Ongoing, see update below.*

All

- Let Astrid know when standards are being withdrawn or revised. *Ongoing.*

Minutes of the last meeting

Myles has a few corrections- **Action Astrid to implement changes before putting on web site.**

Priorities from HBDSEG

Roger Proudfoot gave an update on the outcomes from the paper that was sent to MARG to discuss the future of NMBAQC and the technical secretary post. A subcommittee had been formed to discuss options, and included Matt Service, Charlotte Johnson, Collin Moffatt, David Johns and Roger Proudfoot. Their idea was to see if NMBAQC could link up with QUASIMEME (<http://www.quasimeme.org/>), which is a similar scheme, but on a commercial basis. This could take the pressure off participants and managers by better management of overheads. Participation level is paramount for the success and CMAs should be encouraged to have a participation level in line with the amount of samples they produce. A note to this effect has been included in the signup note for this year but so far this is not compulsory. The audit is still very valid and needed for improvement of data, and corrective action helps to improve our data quality. Roger aims to start discussions with Philippe Bersuder, the QUASIMEME representative in Cefas, before the summer, so that proposals can be sent to HBDSEG and NMBAQC for discussion, and to be decided by MARG in November for a start in the next financial year. However, nothing is set in stone as yet and we have to see what the future brings. A technical committee will still be necessary to ensure development of new components where required.

Phytoplankton update

Post meeting note: Registration for 2015 is now closed and we have a record number of participant this year. We are reaching around 90 analysts divided in 35 laboratories around the world. The next step is to send the materials out and this will happen at the end of May. In relation to the name 'Bequalm', so far we have not taken any decision on it. Rafael is awaiting to discuss this issue further in the next month and make a final decision.

Epibiota update

JNCC is working on both operational and analysis guidelines. Becky Hitchin has left this project, but Joe Turner, who helped to organise the epibiota workshop for Natural England, has now taken over. The feedback process has been very useful in developing the standards, we have had a lot of good feedback and people have offered to write sections. A final draft of the operational guidelines will be circulated next week. **Action Astrid to put up on web site once document has been signed off.** A copy of the draft analysis guidelines was circulated before the meeting. Emma is keen to get these sent around to a wider audience. **Action Astrid to proofread before wider circulation. Action Emma to set deadline for comments.**

Contractor's update APEM

PSA Update

1. Subscriptions

LabCode	PS52/53/54/55	PS-OS01/02/03
PSA_2101	1	1
PSA_2102	1	1
PSA_2103	1	1
PSA_2104	(1)	(1)
PSA_2105	1	1
PSA_2106	1	-
PSA_2107	1	-
PSA_2108	1	-
PSA_2109	1	-
PSA_2110	1	(1)
PSA_2111	1	-
PSA_2112	1	-
PSA_2113	1	-
PSA_2114	1	-
PSA_2115	1	-
PSA_2116	-	1
PSA_2117	-	1
PSA_2118	-	1
PSA_2119	-	1
PSA_2120	-	(1)
	14 (15)	8 (11)

2. 2014-2015, Year 21 Operations

Exercises have been distributed in line with the 2014-2015 timetable (available on the scheme website), with slightly delayed circulations of PS54 and PS55. The deadline for PS-OS submission was extended to increase returns. Returns and results, to date, are summarised in the table below.

Exercise	Status	Returns / Comments
PS52	Samples distributed 15/09/14 Interim report circulated 19/12/14 Final version submitted for website Exercise complete	Mud/Sand Test 13 out of 14(15) returns received Excluding 1 extra multi data set
PS53	Samples distributed 15/09/14 Interim report circulated 19/12/14 Final version submitted for website Exercise complete	Diamicton Test 13 out of 14(15) returns receive Excluding 1 extra multi data set
PS54	Samples distributed 19/12/14	Gravel Test
	Interim report circulated 10/03/15 Final version submitted for website Exercise complete	13 out of 14 (15) returns received
PS55	Samples distributed 19/12/14 Interim report circulated 10/03/15 Final version submitted for website Exercise complete	Diamicton Test 13 out of 14 (15) returns received
PS-OS01-03	Samples requested 14/10/14 Data and sample submission deadlines passed Deadlines extended Analysis in progress Exercise active	8 out of 8(11) lists of samples 8 out of 8(11) datasets received 24 out of 24(33) samples selected 12 out of 24(33) samples received

a. Issues arising

The deadline for PS-OS submission was extended to encourage full participation. Twelve of the twenty-four requested samples are still outstanding (these all relate to one participant). Pass/Fail criteria and new z-score formulae are yet to be applied in interim reports, but will be trialled in the annual PSA component report.

It appears that some of the received PS-OS samples are not complete samples. PS-OS submissions require all sample components, i.e. <1mm, >1mm and laser sub-sample, if they are to be analysed by the AQC laboratory effectively so that results can be compared.

It is important that all relevant sections of the workbooks are filled prior to submission. Correct completion will also highlight any processing or data entry errors that may have occurred, ahead of data submission. Except for minor issues, e.g. a missing value, the results and workbooks will not be altered for mistakes that have been realised by the participant after the circulation of interim reports.

The PS-OS exercise has been a learning curve and we have had some delay in getting the samples. The remaining samples are all from one laboratory. Claire Mason has sent some references for the z-scores. Lydia Finbow is currently working on the final report, and the draft results will also be reviewed by Kenneth Pye. **Action David Hall to chase up the outstanding samples one last time.**

Benthic Invertebrates update

Year 20 samples:

1. Subscriptions

LabCode	LR18	OS53/54/55
BI_2001	-	1
BI_2002	-	1
BI_2004	-	1
BI_2005	-	1
BI_2007	-	1
BI_2008	1	1
BI_2009	-	1
BI_2016	-	1
BI_2017	-	1
BI_2019	1	1
BI_2021	-	1
BI_2023	-	1
BI_2026	-	1
BI_2027	-	1
BI_2029	1	1
BI_2030	1	1
BI_2031	-	1
BI_2033	-	1
BI_2034	1	-
BI_2036	-	1
BI_2044	-	1
BI_2045	-	1
BI_2046	-	1
BI_2047	-	1
BI_2048	-	1
BI_2049	-	1
BI_2050	-	1
BI_2051	-	1
BI_2052	-	1
BI_2054	-	1
BI_2056	-	1
BI_2058	1	1
BI_2059	-	1
BI_2060	1	1
BI_2071	-	1
	7	34

2. 2013-2014, Year 20 Contract Carryover Operations

Samples that remained unprocessed at the contract handover point were transferred to APEM for completion (authorised 23/12/14). All have now been reported, except three Own Samples with the external auditor and three samples awaiting invoice payment. Returns and results are summarised in the table below.

Exercise	Status	Returns / Comments
LR18	Exercise complete	General 7 sets of specimens received 7 specimen sets reported
OS53 - 55	Exercise active	102 samples received , including 16 samples for external audit 3 samples awaiting invoice settlement 3 samples with external auditor 96 samples analysed & reported, to date, including 13 samples externally audited.

a. Issues arising.

A number of submissions lacked hard or electronic data; these were requested directly from the participant laboratories. Own Samples have been reported using the new report format created for Year 21 (2014/15) submissions. All inhouse samples are done apart from six, 3 of which are out for external checking.

The NMBAQC committee expressed their gratitude to Apem Ltd for processing the year 20 samples to high standards on such a short time scale.

Year 21 samples:

1. Subscriptions

LabCode	RT47/48	LR19	MB22	OS56/57/58
BI_2101	1	1	1	1
BI_2102	1	1	1	1
BI_2103	1	1	-	1
BI_2104	1	1	-	1
BI_2105	1	1	-	1
BI_2106	1	1	-	1
BI_2107	1	1	-	1
BI_2108	1	-	-	-
BI_2109	1	-	-	-
BI_2110	1	1	1	-
BI_2111	1	-	1	-
BI_2112	1	-	-	1
BI_2113	1	-	-	1
BI_2114	1	-	-	1
BI_2115	1	-	-	1
BI_2116	1	-	-	1
BI_2117	1	-	-	-
BI_2118	1	-	-	1
BI_2119	1	-	-	-
BI_2120	1	-	-	-
BI_2121	-	1	-	1
BI_2122	-	-	-	1
BI_2123	-	-	-	1
BI_2124	-	-	-	1
BI_2125	-	-	-	1
BI_2126	-	-	-	1
BI_2127	-	-	-	1
BI_2128	-	-	-	1
BI_2129	1	-	-	1
BI_2130	-	-	-	1
BI_2131	-	-	-	1
BI_2132	-	-	-	1
BI_2133	-	-	-	1
BI_2134	-	-	-	1
BI_2135	-	-	-	1
BI_2136	-	-	-	1
BI_2137	-	-	-	1
BI_2138	-	-	-	1
BI_2139	-	-	-	1
	21	9	4	32

2. 2014-2015, Year 21 Operations

Exercises have been distributed in line with the 2014-2015 timetable (available on the scheme website), with a slightly delayed circulation for RT48. All circulations have been sent out to participants; all exercises are either complete or active at this time. Returns and results are summarised in the table below.

Exercise	Status	Returns / Comments
RT47	Samples distributed 15/09/14 Submission deadline passed, 31/10/14 Interim reports circulated 25/11/14 Ring Test Bulletin circulated 13/02/15 Exercise complete	General Ring Test 20 out of 21 returns received
RT48	Samples distributed 18/12/14 Submission deadline passed 06/02/15 Interim reports circulated 19/03/15 Ring Test Bulletin in progress Exercise active	Targeted (Syllidae and alike) 18 out of 21 returns received
LR19	Request for specimens distributed 15/09/14 Submission deadline passed, 31/10/14 Analysis / reporting in progress Exercise active	General 5 out of 9 returns received 2 specimens sets reported, to date
MB22	Samples distributed 15/09/14 Submission deadline passed, 31/10/14 Exercise complete	Marine Sample (1mm) 2 out of 4 returns received
OS56 - 58	Samples requested 15/09/14 Data submission deadline passed, 26/09/14 Sample submission deadline passed, 31/10/14 Analysis / reporting in progress Exercise active	31 out of 32 lists of samples 31 out of 32 datasets received 93 out of 93(96) samples received 12 samples to be externally audited 9 samples reported, to date

a. Issues arising

The bulk of electronic files from previous years of scheme operations have been received. These will help to ensure consistency with previous scheme years and assist with the production of annual reports and assessing long term trends. However, the NMBAQC Scheme's most recent MS Access database file is still outstanding.

The ring test bulletin for RT48 (target – Syllidae and alike) is in progress. Prof Guillermo San Martin is currently reviewing specimens and will provide input into the bulletin.

All analysis has been done and we are now just working on the reports. Apem Ltd. have been lenient with assessing Year 21 samples where the remedial action for year 20 had been delayed and mistakes would likely not have occurred if remedial action for year 20 would have taken place. 26% of the samples had failed out of 96 samples total and this lead to remedial action for quite a few laboratories, stressing the need for the NMBAQC scheme.

For 2015-2016 the Macro Benthic exercise has been dropped due to lack of interest, and a new contract has been set up with clear quarterly milestones for the other components.

3. Taxonomic Workshops & Taxonomic Guides

APEM have made contact with the Daniel Moncrieff, Head of FSC Scotland, regarding using Millport Marine Station for future taxonomic workshops and potential NMBAQC macrobenthic processing best practice training courses. He is very keen to link with the NMBAQC Scheme. A competitive workshop quotation will be requested for comparison with the Dove Marine Laboratory in due course.

The 2014 workshop guide for sabellids and fabricids produced by Prof Adriana Giangrande has been added to the Scheme website. Bastian Brenzinger's 2014 workshop guide to interstitial opisthobranchs is still in progress; likely to be completed in early May 2015.

Prof Guillermo San Martin's 2012 workshop guide to Syllidae has been published. Open access funding has been provided by the NMBAQC Committee. A link to this paper will appear on the Scheme's website soon.

There will be an amendment to the guide too, we are just awaiting a verdict on a few specimens. **Action David Hall to draft an expression of interest for a Beginner's workshop for 2015-2016.**

Contractor's update Thomson Ecology

Fish update

2014 / 2015 Participation (List correct as of 19th January 2015)

LabCode	F-RRT	F-RT
2101	x	
2102	x	x
2103	x	x
2104	x	x
2105	x	
2106	x	x
2107		x
2108	x	x
2109	x	x
2110	x	x
2111	x	x
2112	x	x
2113	x	
2114	x	x
2115		x
2116		x
2117		x
2118	x	
2119	x	
2120	x	
2121	x	
2122	x	
2123	x	
2124		
2125		x
2126		x
2127	x	x
2128	x	
2129	x	
2130	x	
TOTAL	23	17

Progress on circulations

Exercise/ Reports	Event/Date	Notes
FRRT06	Protocol and request for specimens to be distributed 08-09-14. Completed . Last set of specimens received 14/01/15. Analysis of fish specimens. Completed and published .	<u>Fifteen fish taxa to be from Northwest European waters</u> (CSEMP samples where appropriate).
FRT08	Distribution of samples 03-12-2014. Completed . Publication pending .	<u>General Fish Ring Test</u> – Assorted Fish Taxa (fifteen taxa).
Annual Report	Report pending .	<u>Annual Report</u> – detailing exercises and results from RRT and RT exercises.

Scheme Year 2015/16 Fish component

- Application note 2015 / 2016 sent to existing fish participants
- One new private laboratory sign up confirmed
- Potential first international lab sign up and
- Potential IFCA (Inshore Fisheries Conservation Authority) sign ups

The reports are reviewed and ready for publication. The Statement of Performance (SOP) is ready to be embossed by Myles, and then send onwards to David Johns and Jim for signing and distribution to participants. **Action Sarah to liaise with Jim to get the SOPs out.**

There was one complaint about the inclusion of freshwater species in the ring test, however, most agencies do sample transitional waters where these type of specimens could occur. Another issue discussed was frozen versus ethanol preserved samples. **Action Sarah to ask laboratories which type of preservation they would prefer for their ring test and send out samples accordingly.**

The IFM fish workshop will be held again soon (Held at FBA River Labs. East Stoke, Nr Wareham, Fish ID element April 27th –29th, Monitoring element April 30th – May 1st). **Action Sarah to raise issue again for collaboration with NMBAQC. Action Mandy, Sarah and Jim to discuss the possibility of an NMBAQC Fish workshop.**

Concerns from Apem regarding photo quality of the ring test- this issue is still not completely resolved. In Jim's absence: **Action Claire Mason to talk to Jim about this and make sure that matters get resolved. Action Jim and Sarah to circulate photo protocol for next year to NMBAQC committee.**

Macroalgae

1. Macroalgal blooming/seagrass ring tests –
 - a) The current set of ring tests was sent out on 5th January.
 - b) All results were returned on time. Bulletins were sent out on 27th March and final reports will be sent out this week.
 - c) Macroalgae % cover – 13 laboratories subscribed and took part with a total of 36 participants. Of these 31 completed quadrat assessment option A (open), 16 completed option B (25 squares) and 27 completed option C (100 squares). Pass rates (Z-scores) were quite good, improved on the last time.
 - d) Seagrass % cover – 13 laboratories subscribed and took part with a total of 35 participants. Of these 30 completed quadrat assessment option A (open), 16 completed option B (25 squares) and 22 completed option C (100 squares). There is much more variation in % cover assessment with seagrass than there is with macroalgae, so more fails of Z-scores.
 - e) Due to concerns over the accuracy of percentage cover as assessed by the ImageJ image analysis programme, it is felt that there should be a separate evaluation of this – see 3 c.
 - f) Macroalgae Biomass - Due to an administrative oversight, three EA labs were sent the wrong tests. By the time this was discovered it was too late to send out biomass samples, as this would have set the whole timetable back considerably. The labs were therefore, regrettably, excluded from this module this time. 9 laboratories took part, which means 9 participants, as only one participant can complete each individual sample.

2. Rocky shore macroalgae ring test –
 - a) The current ring test was sent out on 5th January. Due to an oversight, AFBI were sent the wrong test and consequently received the correct one late. An extension was agreed to the original return date; they did not meet this deadline, and despite further negotiation reports had to be produced without their results.
 - b) Bulletins were sent out on 27th March and final reports will be sent out this week.
 - c) Overall the exercise produced good results, with % pass rates ranging from 85% to 100%.

3. Tendering for 2016 onwards (all components)
 - a) Tender documents have been sent out to prospective contractors. They are due to be returned by the end of May.
 - b) A draft proposal for a reverse ring test protocol has been drafted. This would be let separately, provided we can find some funding for it.
 - c) A draft proposal for evaluation of different methods of image analysis of % cover of seagrass and macroalgae has been drafted. This would be let separately, provided we can find some funding for it.

4. Certificates
2014 certificates were issued. 2015 certificates will be issued once reports are finalised.

5. Macroalgal blooming/Seagrass workshop - I have discussed possible date and location with NRW - Y Foryd near Bangor, north Wales in early/mid September, but

this hasn't been confirmed yet. I need to speak to the university to see if we can use their lab and re accommodation. I'm putting together draft costs to see how much this might cost to run. **Action Clare S to circulate costs to the committee for comment.**

6. Saltmarsh. SEPA took part in the EA ring test last year. EA is not renewing the contract to run another ring test, so we could look into running an NMBAQC ring Saltmarsh flora ring test instead, maybe every 2-3 years. It would also be useful to have an ID guidance protocol, not just a sampling protocol, on the NMBAQC web site. **Action Mandy and Clare S to look into guidance protocol and the financial viability of a Saltmarsh ring test.** There is only quite a small group doing this type of analysis and a small taxa range. **Action Mandy to contact Tina to find out information from current ring test and send to Clare S and Grant. Action Grant to get a contractor's perspective, we might need to add terrestrial contractors to our list. Action Astrid to put on agenda for next meeting to discuss further.**

Zooplankton update

Our Zooplankton ringtest workshop will now be held from 30 June- 1 July and will include results from the ring test, and a training element on the second day. During the workshop we will discuss how we want to take this element further in the future.

AOB

Are we licensed to use photos from ring tests?

The EA's conditions of contracts (which is a generic document) does not deal with ownership of foreground rights. So the contractor creates the photos and therefore owns the foreground rights and can therefore control what is done with the photos.

By the contractor circulating the photos there will be an implied licence for us to use them, this does not extend to us doing whatever we want with them. So to use the photos we should get in touch with the contractor and ask to use them for other purposes, which the contractors are likely to be amenable to.

Going forward legal are helping me with wording for the conditions of contract for the macroalgae specification which will make it clearer that we would want to use the photos for training purposes or perhaps on the website. The new terms (already in the new tender for Macroalgae) reflect this. Any other CMA's wanting to use the photos would then have to set up a license agreement with the EA. This would grant us access to the original photos, not just the published edited photos from the ring tests. Another problem is that NMBAQC is not a legal body so it may be difficult to obtain a license to put on our web site. Plus there is a difference between copyright and intellectual property right, copyright is part of intellectual property right. The only problem that can be foreseen is queries about copy right- it will be worthwhile to put a disclaimer on our web site that participants cannot use photos for commercial use and that all photos need to be acknowledged when used. **Action Mandy to investigate: who has the copyright to the pictures, how can photos/video be used, and how can we protect ourselves from abuse.**

'BS EN ISO/IEC 17043:2010 Conformity assessment – General requirements for proficiency testing'.

Are the committee aware of this standard? This is about the running of proficiency testing schemes rather than biological methods, but think it should be a standard we should be aware of.

Generally we comply with the specifics set out in the standard, but there are some bits in this standard, especially regarding document control, where we may need to improve upon. Items to think about are documentation control, governance and management, complaints procedures and auditing our own results. **Action Clare S to send information on parts of ISO standard where we may not be compliant. Action Clare S to also contact Joe/Rafael to see if they are aware of this ISO standard. Action Astrid to update NMBAQC terms of references to reflect the ISO standard.**

Deep Sea species for offshore monitoring

This was briefly mentioned at the last meeting. Craig Roberts would like NMBAQC to target deep water species. Apem Ltd are happy to do such a test, but the potential problem is sourcing specimens and gauging if there is enough interest. Craig has said he has got a number of contacts who could be contacted for sourcing specimens. **Action Grant Rowe to send an email gauging interest from participants, even if it was only for a one-off test. Action Claire Mason to contact Keith and Jim to see if they know more about deepwater sampling initiatives.** A lot of people outside of NMBAQC are doing this type of monitoring, e.g. SAMS, Aberdeen, NOCS Southampton, and possibly the Marine Institute Northern Ireland. **Action Astrid/Grant to liaise and investigate. Action Astrid to put on agenda for next meeting to further discuss this and decide how to proceed.**