NE ATLANTIC MARINE BIOLOGICAL AQC SCHEME
18 April 2016. 10.00-15.00

Attending: Tim Mackie (TM, NI EA), Myles O'Reilly (MoR, SEPA), Claire Mason (CM, CEFAS), Astrid Fischer (AF, Technical Secretary, SAHFOS), Paul Brazier (PB, Natural Resources Wales), , Graham Phillips (GP, EA, Finance Manager), Sarah Hussey (SH, Thomson Ecology Ltd), Carol Milner (CMi, Apem Ltd), Lydia Finbow (LF, Apem Ltd), David Hall (DH, Apem Ltd), Grant Rowe (contractor's representative)
Apologies: David Johns (DJ, Chair, SAHFOS), Keith Cooper (KC, CEFAS), Jim Ellis (JE, CEFAS). Amy Ridgeway (AR, JNCC), Joe Silke (JS, Marine Institute), Rafael Salas (RS, MI)
(MoR acted as chair in DJs absence)

Meeting Actions from January meeting & minutes

All

- Send university contacts to Astrid. *So far only one received.*
- Comment on proposed macroalgae/saltmarsh workshop to Clare.
- Send comments to David J for the next HBDSEG meeting. *Done*
- Send all comments on the Year 20 report to Astrid by the end of the week. *Year 20 annual report is now available on our web site: http://www.nmbaqcs.org/media/1625/nmbaqc-annual-report-year-20-final.pdf*

Astrid

- Send out the new logo name in HD. *Done – text only. Action Astrid to send the image to contractors as well. Post meeting note- this has been done. It was queried if the logo needed to be changed now the name has changed, as it looks a bit outdated with the new text. There was no real support for a logo change.*

Claire Mason

- Send around year 21 annual PSA report. *Done.*
- Include a piece in the PSA guidance after her asbestos paper has been published and to email around to committee. *Ongoing. Claire is finalising her report and will then circulate. There is nothing currently on Health & Safety in the guidance, so this will need to be included. You can either screen all samples for asbestos, or assume that all samples may have a low-level contamination and have procedures in place. Suggestions made were: shakers to be operated in a fume cupboard, and to have a draw down table with a hoover attached to suck the sample to the bottom. There should be a control measure fit-for-purpose (including taking swabs for measuring levels of dangerous substances and a number for how many replicates of analysis are required).*

David H./Carol

- With Grant to arrange deep sea monitoring species for ring test. *Ongoing, Dave H. will discuss with Craig to see what he can produce for the next ring test.*
- To include deadlines in ring test bulletins. *This was relating to delays, which have been communicated to participants with details in the final report.*
- Draft a paragraph to summarise the changes in the LR reporting for next year for the info and application note. *Myles has sent Astrid a draft for this. Action Astrid to forward to Carol to see if she is happy with inclusion in the next Info & Application Note. There will be additional funding required for the extra time needed. Action Carol/ Dave H to send potential costs involved to Graham, as recommended by Myles.*
- Investigate with Steve (Apem Ltd) if we can create a taxonomic discrimination protocol database that can be circulated to participants for comments and get back to Myles *Not much advancement has been made to this. Tim Worsfield has done a TDP for sabellids, Dave H suggested this could be used as an item on the benthic invertebrate workshop for discussion- use the workshop as a trial to see where the level should be, with current*

taxonomic literature attached to it. Then produce a protocol for the web site and announce how the auditing will change, and follow up with a workshop.

- Send details about outstanding remedial actions for Myles to chase up *Done, but not all the remedial actions have been performed. Action Carol to send an updated table to Myles.*
- Have a detailed discussion with Myles about failed CMA samples- should this be communicated to the CMA owner.Together with Myles come up with a proposal for non-CMA laboratories laboratories who submit CMA data as own sample and to trial this in the next NMBAQC year. *There have been discussions, and the new OS protocol will state that data will be shared with CMAs. The number of samples being submitted will need review as well- some labs submit less than 12 samples. In the info & application note it states that the protocol will be reviewed this year, and if there are any queries, they should contact the Contract Manager.*
- Send details to Myles about Scottish ITT recently out in which the benthic data is not planned to be QA'ed by NMBAQC. Tenderers were invited to include a costed option for managing their own external AQC following the OS protocol. *Post meeting note: This is a JNCC/Marine Scotland contract - It is not that NMBAQC hasn't been used, it is that additional QA is being applied to ensure that 5% of the samples gathered on the survey are quality assured and this additional QA will still conform to NMBAQC standards. Myles has spoken to Amy to ensure this will be worded better in future. Dave H expressed a concern about the QA of this project, and suggested that NMBAQC offered to review their documents and to give guidance whether or not we can see any contradictions in their outcomes. Action Dave H and Myles to discuss further.*

Grant

- With David H to arrange deep sea monitoring species for ring test. *Already discussed (see David H).*

Myles

- Have a detailed discussion with David H about failed CMA samples- should this be communicated to the CMA owner. *Already discussed (see David H).*
- Together with David H./Carol come up with a proposal for non-CMA laboratories laboratories who submit CMA data as own sample and to trial this in the next NMBAQC year *Already discussed (see David H).*

Paul W/ Amy

- Speak to Paul W about organising a small photo or video test together with Committee members who have an interest in epibiota. Action Tim to speak with Paul W/ Amy

Tim

- Chase NIEA for their standard operating procedures regarding macroalgae. Action Claire Young to send these to Astrid after the meeting. *Post meeting note: these have been received.*

Paul B

- Discuss with Clare S to have the macroalgae workshop in Wales. *This has not happened. Claire Young has spoken to Clare S, and has had an email with possible locations, including Strangford. John from the EA has a hovercraft technique we may wish to show. Action Tim to send Astrid Claire Young's email. Post meeting note- this has been done. Action Astrid to send all information that Clare S has left her to Claire Young. Post meeting note- this has been done.*

Minutes of the last meeting

The minutes of the last meeting were approved with a minor correction (aquaculture instead of agriculture).

Epibiota update

The new Analysis guidelines are now up on our web site. The next step will be a small ring test or a workshop to assess the next steps, in collaboration with Tim Mackie. Action Tim to contact Amy/ Paul W to discuss future steps.

Phytoplankton update

The International Phytoplankton Intercomparison (IPI) is an international partnership to provide enumeration and identification quality assurance in marine phytoplankton. It was formerly part of the now concluded EU initiative Biological Effects Quality Assurance in Monitoring Programmes (BEQUALM) since 2005. The IPI is implementing its intercomparison exercises through the Marine Institute Ireland in cooperation with the Intergovernmental Oceanographic Commission of UNESCO (IOC) through its Science and Communication Centre on Harmful Algae at the University of Copenhagen, Denmark. The UK NE Atlantic Marine Biological Analytical Quality Control Scheme (NMBAQC) is one of our partners. They have been associated with the IPI scheme (formerly Bequalm) since the beginning in 2005 as the umbrella group for UK laboratories participating in phytoplankton intercomparison exercises under community analysis. The IPI operates according to the ISO standards 17043 Conformity assessment-General requirements for proficiency testing and ISO13528 Statistical methods for use in proficiency testing by interlaboratory comparisons. We are currently applying for accreditation for 2017 under ISO17043 to the Irish national Accreditation Board (INAB) for the IPI to be accredited as a proficiency testing scheme. The IPI is a partnership of agencies, quality control entities and organizations with interest in phytoplankton monitoring and quality control. Partnership will allow for endorsement on IPI certificates of proficiency by national or regional partners where this will enhance the value of certificates to participants in the proficiency testing.

It has been a while since Joe/Rafael have phoned in at the meeting and we would not want the phytoplankton activities to diverge from the NMBAQC activities. Action David J to ask Joe and Rafael to call in at meetings.

Priorities from HBDSEG

Tim spoke to Roger last week and people's names have been put in frames for benthic reporting for the Marine Strategy Framework Directive. One problem that he could foresee is for condition assessment and reporting is for the regional assessment of the IQI, that there is now no one place where all the data is held. Many of us use UNICORN but this system is on its last legs. In MERMAN and Marine Recorder it is difficult to submit and manipulate data, and share this between organisations. Thomson Unicomarine has now dropped its support for UNICORN and it would be useful if NMBAQC could maintain it ourselves, link it to WORMS and use support from the CMAs. UNICORN would be ideal for use for the MSFD. Action Tim to discuss options with Graham. Another possibility would be to have a web-based application based on an Access database. We would also need a standard taxonomic dictionary- this could be linked with the Taxonomic Discrimination Protocol but it would mean reviewing the WORMS list. NMBAQC should be looking at things as 'what is a juvenile?', 'how to biomass' and 'how to store a specimen'. Action Keith to contact David H to offer any information that can be of value.

Contractor's update APEM

PSA Update

2014-15, Year 21

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)**

Numbers in brackets indicate labs that subscribed but provided confirmation of non – participation.

2014-2015, Year 21 Operations

Exercises were 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. All exercises have been completed and reported. Returns and results 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 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 returns received Excluding 1 extra multi data set

Exercise	Status	Returns / Comments
PS54	Samples distributed 19/12/14 Interim report circulated 10/03/15 Final version submitted for website Exercise complete	Gravel Test 13 out of 14 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 returns received
PS-OS01-03	Samples requested 14/10/14 Data and sample submission deadlines passed 12/12/14 Deadlines extended 13/2/15 Exercise complete 12/6/15	8 out of 8 lists of samples 8 out of 8 datasets received 24 out of 24 samples selected 12 out of 24 samples received- the outstanding samples could not be obtained despite best efforts.

a. Issues arising

The 2014/2015 annual PSA report has been added to the website. Statements of Performance have been sent to Claire Mason (Component Manager) to sign.

2015-16, Year 22

1. Subscriptions

LabCode	PS56/57	PS58/59	PS-OS04/05/06
PSA_2201	1	1	-
PSA_2202	1	1	-
PSA_2203	1	1	-
PSA_2204	1	(1)	(1)
PSA_2205	1	1	-
PSA_2206	-	-	1
PSA_2207	-	-	1
PSA_2208	1	1	1
PSA_2209	1	1	-
PSA_2210	1	1	1
PSA_2211	1	1	1
PSA_2212	1	1	1
PSA_2213	1	1	1
PSA_2214	1	1	-
PSA_2215	1	1	-
PSA_2216	1	1	-
PSA_2217	1	1	-
PSA_2218	1	1	-
PSA_2219	-	-	1
	16	**15 (16)**	**8 (9)**

Numbers in brackets indicate labs that subscribed but provided confirmation of non – participation.

2. 2015-2016, Year 22 Operations

Exercises PS56, PS57, PS58 and PS59 were distributed in line with the 2015-2016 timetable (available on the scheme website). The deadline for PS-OS submission was extended to increase returns. All exercises have been completed and reported. Returns and results are summarised in the table below.

Exercise	Status	Returns / Comments
PS56	Samples distributed 13/05/15 Sample deadline 31/07/15 Interim report complete (08/09/15) Exercise complete	Mud/Sand Test 16 out of 16 returns received
PS57	Samples distributed 13/05/15 Sample deadline 31/07/15 Interim report complete (08/09/15) Exercise complete	Gravel Test 16 out of 16 returns received
PS58	Samples to be distributed 14/10/15 Sample deadline 18/12/15 Interim Report complete (15/01/16) Exercise complete	Diamicton Test 15 out of 16 returns received 1 email of non-participation received
PS59	Samples to be distributed 14/10/15 Sample deadline 18/12/15 Interim Report complete (15/01/16) Exercise complete	Diamicton Test 15 out of 16 returns received 1 email of non-participation received
PS-OS04-06	Samples requested 13/05/15 Data submission deadline passed (08/06/15) Sample submission deadline passed (31/07/15) Deadlines extended Reports issued (31/03/2016) Exercise complete	8 out of 9 lists of samples 8 out of 9 datasets received 24 out of 27 samples selected 24 out of 27 samples received 1 email of non-participation.

a. Issues arising

The deadline for PS-OS submission was extended to encourage full participation. One participant did not send any data but provided email confirmation of non-participation. All of the remaining 24 samples were received (from 8 participants) and have been re-analysed. Individual reports were sent to the participants (31/03/2016). Rather than "Pass" or "Fail" flags, participants received "Good" or "Review" for four aspects of analysis; Representative Sample, Sieve Processing, Laser Processing and Data Merging. Where a "Review" was issued comments were provided to explain the discrepancy along with details of where to find information to rectify the problem, where possible.

Pass/Fail criteria and new z-score formulae were trialled for the PS exercises in the annual (2014/2015) PSA component report and was also applied in the 2015/2016 interim reports. This method still does not provide good pass/fail criteria as some laboratories receive a "Pass" when they should probably fail. These false passes are due to another laboratory producing more extreme data and extending the margin of data acceptance. In addition the pass/fail criteria do not pick up on simple mistakes such as not re-proportioning laser data or producing final data that does not sum to 100% for example. Next year PS module

results will take on a format more like that of the PS-OS module, where the processes are separated (sieving, laser processing and merging the two).

A draft copy of the 2015/16 annual report has been written and sent to Ken Pye for comments. We have just received the amendments from Ken Pye back, and an amended version will be sent to Claire Mason shortly, and the SOP's will be issued shortly. Do these need to be embossed? Astrid suggested that she could help with the embossing and sending of certificates if her contract allows her to. Astrid to check with David J and confirm with Graham if there will be additional postage costs. Post meeting note: this is fine. Action Myles to send Astrid the embossing stamp. Post meeting note: embossing stamp has been received by Astrid.

Claire Mason has made the amendments to the PSA guidance to clarify review points (not every sample needs 9 replicates) and this has been uploaded on the web.

Particle Size Component 2016-2017 Timetable (Scheme Year 23)

Module / Exercise	Event	Date
PS60 & PS61	Samples distributed	25/05/16
	Results deadline	29/07/16
	Interim reports	12/08/16
	Final report	28/10/16
PS62 & PS63	Samples distributed	12/10/16
	Results deadline	16/12/16
	Interim reports	13/01/17
	Final report	13/03/17
Module / Exercise	**Event**	**Date**
Module / Exercise	**Event**	**Date**
PS-OS07–09	Request for sample data distributed	25/05/16
	Data submission deadline for sample selection	08/06/16
	Selected samples submission deadline	27/07/16
	Interim reports	24/02/17
	Final report	31/03/17
Workshop - TBC	TBC	TBC

Benthic Invertebrates update

2015-16, Year 22

1. Subscriptions

LabCode	RT49/50	LR20	OS59/60/61
BI_2201	1	1	1
BI_2202	1	-	1
BI_2203	1	-	1
BI_2204	1	1	1
BI_2205	1	1	1
BI_2206	1	-	-
BI_2207	1	1	1
BI_2208	1	-	1
BI_2209	1	-	1
BI_2210	1	1	1
BI_2211	1	1	1
BI_2212	1	-	-
BI_2213	1	-	1
BI_2214	1	1	-
BI_2215	1	-	-
BI_2216	1	-	1
BI_2217	1	-	-
BI_2218	1	-	1
BI_2219	1	1	1
BI_2220	1	-	1
BI_2221	1	-	-
BI_2222	**1(RT50 only)**	**-**	**-**
BI_2226	-	-	1
BI_2227	-	-	1
BI_2228	-	-	1
BI_2229	-	-	1
BI_2230	-	-	1
BI_2231	-	-	1
BI_2232	-	-	1
BI_2233	-	-	1
BI_2234	-	-	1
LabCode	RT49/50	LR20	OS59/60/61
BI_2235	-	1	1
BI_2236	-	-	1
BI_2237	-	-	1
BI_2238	-	-	1
BI_2239	**-**	**-**	1
BI_2240	-	-	1
BI_2241	**-**	**-**	1
BI_2242	-	-	1
BI_2243	**-**	**-**	1
BI_2244	-	-	1
	22	**9**	**34**

2. 2015-2016, Year 22 Operations

Exercises have been distributed in line with the 2015-2016 timetable (available on the scheme website). All circulations have been sent out to participants; all exercises have been completed. Returns and results are summarised in the table below.

Exercise	Status	Returns / Comments
RT49	Samples distributed 27/05/15; Submission deadline passed, 31/07/15; Interim report circulated 19/8/15; Ring Test Bulletin complete and issued 15/2/16; Exercise complete.	General Ring Test; 19 out of 21 returns received.
RT50	Samples distributed 09/10/15; Submission deadline passed, 18/12/15; Interim report circulated 7/1/16; Ring test Bulletin complete and issued 31/3/16; Exercise complete.	Targeted (Amphipoda); 20 out of 22 returns received.
LR20	Request for specimens distributed 08/05/15; Submission deadline passed, 05/06/15; Analysis / reporting complete (deadline 6/7/15); Exercise complete.	General; 7 out of 9 returns received, to date; 7 sets of samples analysed and reported.
OS59-61	Samples requested 08/05/15; Data submission deadline passed, 05/06/15; Sample submission deadline passed, 31/07/15; Analysis / reporting complete (deadline 29/2/15 interim reports); Final report issued to MOR 30/3/16; Exercise complete.	32 out of 34 lists of samples received; 32 out of 34 datasets received; 96 out of 102 samples received; 7 samples sent for external audit; 96 samples analysed; 32 out of 34 sets reported (last reports issued 23/3/16).

a. Issues arising

The only thing left to complete is the Statements of Performance; the Component Annual Report is a first draft as we would expect to reissue on the completion of remedial action. Myles commented that is was good to see all was reported on schedule.

1. Taxonomic Workshops

APEM has provisionally booked 10th – 14th October 2016 at the Dove Marine Laboratory for the 2016 Expert Workshop. We are awaiting costs from the Laboratory. We currently have Vasily Radashevsky interested in presenting an update on Spionidae, along with João Gil interested in presenting on Paraonidae.

Myles suggested also to investigate Millport station, as this now has a new accommodation block with very good facilities.

Remedial Action

Year 20 (2013/2014)

		OS53		OS54		OS55	
Lab code	**OS reported**	**Score**	**RA**	**Score**	**RA**	**Score**	**RA**
BI_2001	26 March 2015	100.000	None	96.066	None	**88.889**	**RA outstanding**
BI_2002	26 March 2015	85.714	Completed 2/4/15	95.000	None	99.750	None
BI_2016	18 March 2015	88.213	Completed 8/4/15	**85.482**	**RA outstanding**	99.608	None
BI_2017	27 March 2015	94.048	None	90.323	None	**70.588**	**RA outstanding**
BI_2019	25 March 2015	94.631	None	**78.431**	**RA outstanding**	**78.161**	**RA outstanding**
BI_2023	27 March 2015	80.000	Completed 29/4/15	94.286	None	94.737	None
BI_2029	25 March 2015	89.899	Completed 4/6/15	83.706	Completed 4/6/15	100.000	None
BI_2030	18 February 2015	97.436	None	95.238	None	89.916	Completed 16/7/15
BI_2033	27 March 2015	**43.478**	**RA outstanding**	**63.768**	**RA outstanding**	**69.333**	**RA outstanding**
BI_2046	18 March 2015	66.667	Completed 18/3/15	97.077	None	92.391	None
BI_2047	30 March 2015	94.118	None	40.000	Completed 2/7/15	**77.362**	**RA outstanding**
BI_2048	30 March 2015	**70.424**	**RA outstanding**	**89.384**	**RA outstanding**	**86.607**	**RA outstanding**
BI_2056	30 March 2015	**63.758**	**RA outstanding**	**71.795**	**RA outstanding**	**88.446**	**RA outstanding**
BI_2058	25 March 2015	92.308	None	**66.667**	**RA outstanding**	95.890	None
BI_2059	30 March 2015	**84.058**	**RA outstanding**	100.000	None	**85.714**	**RA outstanding**
BI_2071	19 May 2015	**15.942**	**RA outstanding**	**40.945**	**RA outstanding**	**49.505**	**RA outstanding**

***NB – Outstanding remedial action includes 4 CMA labs that sub-contract analysis**

Year 2014/2015 (Year 21)

		OS53		OS54		OS55	
Lab code	**OS reported**	**Score**	**RA**	**Score**	**RA**	**Score**	**RA**
BI_2106	14 May 2015	72.607	RA outstanding	52.174	RA outstanding	100.000	None
BI_2113	24 November 2015	90.909	None	88.889	RA completed 8/12/14	100.000	None
BI_2115	23 April 2015	89.283	RA completed 30/6/15	70.852	RA completed 30/6/15	100.000	None
BI_2118	26 May 2015	98.873	None	55.039	RA outstanding	94.118	None
BI_2121	26 May 2015	92.593	None	78.987	RA outstanding	89.431	RA outstanding
BI_2126	24 April 2015	89.320	RA outstanding	82.784	RA outstanding	78.008	RA outstanding
BI_2127	15 May 2015	68.803	RA outstanding	63.106	RA outstanding	55.738	RA outstanding
BI_2128	19 May 2015	76.430	RA outstanding	87.879	RA outstanding	76.471	RA outstanding
BI_2131	24 September 2015	96.674	None	93.032	None	75.000	RA outstanding
BI_2132	26 May 2015	92.860	None	91.454	None	FAIL	RA outstanding
BI_2133	29 September 2015	83.426	RA outstanding	94.777	None	97.768	None
BI_2138	26 May 2015	96.104	None	88.889	RA completed 11/12/15	77.512	RA completed 11/12/15

***NB – Outstanding remedial action includes 4 CMA labs that sub-contract analysis**

Year 2015/2016 (Year 22)

		OS59		OS60		OS61	
Lab code	**OS reported**	**Score**	**RA**	**Score**	**RA**	**Score**	**RA**
BI_2203	18 December 2015	6.48	RA outstanding	0.300	RA outstanding	0	RA outstanding
BI_2205	23 March 2016	86.588	RA outstanding	90.909	None	100	None
BI_2213	05 January 2016	96.296	None	85.623	RA outstanding	85.106	RA outstanding
BI_2218	04 March 2016	97.8	None	81.000	RA in progress	98.8	None
BI_2232	23 March 2016	100	None	88.889	RA outstanding	100	None
BI_2234	23 March 2016	84.564	RA outstanding	100.000	None	96.296	None
BI_2236	18 February 2016	88.571	RA completed 18/2/16	91.453	None	96.218	None
BI_2239	06 January 2016	72.165	RA outstanding	85.625	RA outstanding	89.971	RA outstanding
BI_2240	23 December 2015	98.361	None	98.936	None	76.923	RA completed 19/1/16

***NB – Outstanding remedial action includes 4 CMA labs that sub-contract analysis**

Action Myles to chase up outstanding remedial actions. Dave H will also be more proactive on the remedial actions.

NMBAQC

NE Atlantic Marine Biological Analytical Quality Control Scheme

Invertebrate Component 2016-2017 Timetable (Scheme Year 23)

Module / Exercise	Event	Date
RT51 - General	Samples distributed	25/05/16
	Results deadline	29/07/16
	Interim reports	12/08/16
	Final report	28/10/16
RT52 - Targeted	Samples distributed	12/10/16
	Results deadline	16/12/16
	Interim reports	13/01/17
	Final report	13/03/17
LR21	Protocol and request for specimens distributed	25/05/16
	Specimen submission deadline	29/07/16
	Final reports	03/03/17
OS62–64	Request for sample data distributed	25/05/16
	Data submission deadline for sample selection	17/06/16
	Selected samples submission deadline	29/07/16
	Interim report final deadline	03/03/17
	Final report	31/03/17
Workshop – beginner/expert	APEM Letchworth / Dove Marine Laboratory	10-14th October 2016

Macroalgae

Thanks were expressed for all the hard work that Clare S has been putting into the scheme during her time as Contract Manager, and with the setting up of the component exercises.

Tim nominated Claire Young to be the next Macroalgal Contract manager, Myles seconded. Action Astrid to send all relevant paperwork to Claire Young and to chase up Emma Wells for results from this year's exercise. Action Claire Young to send her contact details to Astrid. Post meeting note- both actions completed.

Update from Emma Wells:

The preliminary results bulletins have been completed and distributed. Naturally with the sudden leaving of Clare Scanlan, the macroalgae project has been left without a contract manager which was causing problems as ideally the reports (which are now completed) really need reviewing/approving before being distributed.

Emma Wells had sent them to Clare S a week or so ago but was also aware Clare S was moving house but today Clare S has confirmed that she is happy to review the reports for this year's ring test. Therefore, should anyone enquire, the reports are finished and once approved will be distributed to all participants/laboratories after which Emma Wells will prepare the certificates for signing.

There were further thanks for Clare's willingness to complete and finish the tasks and hand over a good ship to Claire Young.

Contractor's update Thomson Ecology

Fish update

Scheme Membership Details

2015 / 2016 Participation

Laboratory Code	Fish Reverse Ring Test	Fish Ring Test
F_2201		Y
F_2202	Y	
F_2203	Y	
F_2204	Y	
F_2205	Y	
F_2206	Y	
F_2207	Y	
F_2208	Y	
F_2209		Y
F_2210	Y	
F_2211	Y	
F_2212	Y	Y
F_2213	Y	Y
F_2214	Y	Y
F_2215	Y	

Laboratory Code	Fish Reverse Ring Test	Fish Ring Test
F_2216	Y	Y
F_2217	Y	
F_2218	Y	
F_2219		Y
F_2220	Y	Y
F_2221	Y	Y
F_2222		Y
F_2223	Y	
F_2224		Y
F_2225	Y	Y
F_2226	Y	Y
F_2227	Y	
F_2228		Y
F_2229		Y
F_2230	Y	
F_2231	Y	
Total	**24**	**15**

(List correct as of 20th October 2015)

Progress on circulations

Scheme Year 2015/16 Fish component

Exercise / Report	Event / Date	Notes
F_RRT07	Protocol and request for specimens to be distributed 07-09-15. Completed. Specimen submission deadline 11-12-15. Completed. Bulletin deadline 11-03-16 Completed	Fifteen fish taxa to be from Northwest European waters (CSEMP samples where appropriate).
F_RT09	Distribution of samples 04-12-2015. Completed. Results deadline 05-02-2016. Completed Bulletin deadline 12/02/16 Completed	General Fish Ring Test – Assorted Fish Taxa (fifteen taxa).
Annual Report	Bulletin deadline 31-03-16. Pending	Annual Report – detailing exercises and results from RRT and RT exercises.

Other news

We have had an enquiry for a potential new sign up.

One laboratory was about a month late, but for a good reason, but this has delayed the annual report.

Astrid mentioned that SAHFOS are organising a fish larvae workshop on an introductory level, possibly in October/November this year, and this will also be advertised via NMBAQC.

There is currently no fish workshop planned but we will be advertising again to see if there is any interest. There is a current IFM workshop and another conference planned for May 2016. Action Sarah to find out if IFM have gone ahead with their workshop (if they had enough interest) and to try to cooperate with IFM to collaborate with workshops.

Zooplankton update

SAHFOS is preparing a zooplankton ringtest for Autumn 2016. This time there will also be an enumeration component, as was requested in the trial ringtest workshop, this will be done with beads and photographs.

AOB

DNA verification of taxa

From David J: I've just been asked a question by a colleague at the MBA here in Plymouth about species verification by genetic (eDNA) probes– I wonder if there was a contentious taxa that had been 'proven' by genetics? – and if they had, is there an example of best practice? What are people's feeling on this? Have you come across genetic monitoring? Do we need to investigate this further? I think more of this will come to light with the current push on monitoring non-natives.

From Clare S: The only working tool I know of at present is e-DNA for freshwater fish in lakes, something SEPA is looking at using. Apparently you can tell what species of fish are present from a water sample using DNA. However, there will be a limited number of species in any freshwater loch, so perhaps that is more reliable. With the algae there is a lot of genetic work going on, identifying cryptic species or reclassifying known ones. For example, the common seaweed *Placamium cartilagineum* (one species known in the UK since forever) has fairly recently been shown to be up to four species. However, it hasn't been possible yet to agree morphological features for these species. While there's a lot of work going on, we're nowhere near the stage of being able to throw a heap of algae in a blender and tell what's in it. The DNA analysis is useful for confirming species ID in many cases, if you have access to it. For example I got a freshwater alga confirmed that way, one which could easily have been confused with other related taxa.

As to probes, I think I'd be quite wary of those at the moment, largely because I don't know anything about them, but also because such things are often over-sold.

However, we are now routinely using DNA analysis in bathing waters monitoring for E.coli confirmations, and I think there are probes being (have been?) developed for that.

Non indigenous species

From David J: In (plenty of) advance of our next meeting, I have been asked again about non-native species (or non-indigenous, everyone seems to use a different term), and whether there was a chance in adding target taxa to ring tests. The latest list I have is attached. I would envisage the main issue is specimens, but I would be interested in hearing what people think about this – of course, some of this may have been done already.

Some of you may well be approached by CEFAS over the coming months anyway about these taxa, and asking if you are happy to share positive records of these aliens, on an annual basis. List is included in table on next page.

See also: http://www.nonnativespecies.org/home/index.cfm
(and for people with a smartphone this may be of interest http://naturelocator.org/aquainvaders.html)

The algae on this list may be relevant to Claire Young- they could possibly be used in a photographic ring test.

David H commented that most benthic species were epifaunal, and ring test are normally focussed on infaunal species. It was queried if the list was fully agreed? Tim thinks that the UK list of species of concern is agreed, however local lists of concern aren't agreed yet. Action if anyone can find an appropriate link to send it to David H so he can use it to source materials for invertebrates, and also send it to Claire Y for macroalgae.

Year 21 annual report

Action Myles and Astrid to continue to work on this.

Info and application note

Astrid asked for any comments on the info and application note so that she can send out shortly. Post meeting note-the info and application note has been sent out.
There had been a query from someone who thought the info and application note contained too much jargon and David H had sent the module protocol. Maybe in future we could hyperlink to the module protocols on our web site? It is hard to assess the level of detail needed, but it should give access to as much information as possible. Action David H to send protocols to Astrid. Action Astrid to link these on our web site.
Myles asked when the zooplankton ring test will be held- this is going to be in Autumn 2016.

Species name (WORMS)	Synonyms (WORMS)	Common name	Typical habitat	Category	List	WFD listed (classification list v7.6 and alarm li	1.2)	Notes
Acartia (Acanthacartia) tonsa	Acartia (Acanthacartia) giesbre	Marine copepod	Planktonic in coast	Zooplankton	Present	Unknown	Unknown	
Alexandrium catenella	Gessnerium catenella, Gessne	A Dinoflagellate	Planktonic, inhabit	Phytoplankto	Horizon			
Amphibalanus amphitrite	Balanus amphitrite	Striped barnacle	Attaches to hard su	Barnacle	Present	Unknown	Unknown	
Amphibalanus reticulatus	Balanus reticulatus	Barnacle	Occurs on a variety	Barnacle	Horizon			
Asterias amurensis	Allasterias migrata, Asterias ac	Flatbottom sea star	Occurs on a range c	Seaweed	Horizon			
Asterocarpa humilis	Asterocarpa cerea, Cnemidoca	Compass sea squirt	Attaches to hard su	Sea squirt	Present			
Bonnemaisonia hamifera	Asparagopsis hamifera, Bonne	Red seaweeds	Attaches to hard su	Phytoplankto	Present			
Caprella mutica	Caprella mucho	Japanese skeleton shrimp	Associates with ma	Shrimp	Present	Moderate	Moderate	
Caulerpa racemosa	Caulerpa clavifera, Caulerpa cl	Sea grapes	Colonises a variety	Seaweed	Horizon			
Caulerpa taxifolia	Fucus taxifolius	Caulerpa/ killer alga	Colonises a variety	Seaweed	Horizon			
Celtodoryx ciocalyptoides	Celtodoryx girardae, Cornulum	Sponge	Occurs on rocky sut	Sponge	Horizon	Alarm		
Chama sp.	Many species and synonyms wi	Jewel box clam	There are several d	Bivalve	Horizon			
Crassostrea angulata	Gryphaea angulata, Ostrea ang	Portuguese oyster	Attaches to firm su	Bivalve	Present			C. angulata and C. gigas are listed here separately but
Crassostrea gigas	Crassostrea laperousii, Crasso	Pacific oyster	Attaches to firm su	Bivalve	Present	Moderate	Moderate	are morphologically indistinguishable, very closely
Crepidula fornicata	Crepidula riisei, Crepidula virgi	Slipper limpet	Wide range of shelf	Univalve	Present	High	High	
Dendostrea frons	Dendrostrea frons, Lopha frons	Mangrove oyster	The usual habitat is	Bivalve	Horizon			
Diadumene lineata	Aiptasiomorpha (Diadumene) li	range-striped sea anemor	Attaches to hard su	Anemone	Present	Unknown	Unknown	
Didemnum vexillum	Didemnum vestitum, Didemnu	Carpet sea squirt	Attaches to hard su	Sea squirt	Present	High	High	
Dyspanopeus sayi	Neopanope sayi, Panopeus say	Say mud crab	Inhabits a range of	Crab	Present			
Ensis directus	Ensis americanus, Ensis arcuat	American jack knife clam	Burrows in unstabl	Bivalve	Present	Unknown	Unknown	
Eriocheir sinensis	Eriocheir sinensis f. acutifrons,	Chinese mitten crab	Inhabits upper rea	Crab	Present	High	High	
Ficopomatus enigmaticus	Mercierella enigmatica, Phyco	Marine tubeworm	Reef building tubev	Tubeworm	Present	High	High	
Gracilaria vermiculophylla	Gracilaria asiatica, Gracilariop	red algae	Preferred habitat is	Seaweed	Horizon	Unknown	Unknown	
Grateloupia doryphora	Grateloupia abreviata, Gratelo	Red seaweeds	Attaches to rocks/s	Seaweed	Present	Unknown	Unknown	G. turuturu was originally misidentified as G.
Grateloupia turuturu	Halymenia sinensis	l's Tongue Weed (macroal	Attaches to rocks/s	Seaweed	Present			doryphora in the North Atlantic region, so there is
Hemigrapsus penicillatus	Brachynotus brevidigitatus, Gra	Japanese Shore Crab	Inhabits intertidal	Crab	Horizon		Waiting list	
Hemigrapsus sanguineus	Grapsus (Grapsus) sanguineus,	sian/Japanese shore cral	Inhabits rocky area	Crab	Horizon	Waiting list		
Hemigrapsus takanoi	Hemigrapsus tanakoi	brush clawed shore crab	Inhabits intertidal	Crab	Horizon	Waiting list	Waiting list	
Hesperibalanus fallax	Solidobalanus fallax	A barnacle	Colonises other bio	Barnacle	Present			
Heterosigma akashiwo	Chattonella akashiwo, Chatton	A dinoflagellate	Planktonic, blooms	Phytoplankto	Present			
Homarus americanus	-	American lobster	Inhabits a range of	Lobster	Present	Waiting list	Waiting list	
Megabalanus coccopoma	-	Titan acorn barnacle	Attaches to hard su	Barnacle	Horizon	Alarm		
Megabalanus zebra	-	Barnacle	Attached to hard su	Barnacle	Horizon			
Mizuhopecten yessoensis	Patinopecten yessoensis, Pect	Japanese scallop	Occurs in sheltered	Bivalve	Horizon			
Mnemiopsis leidyi	Mnemiopsis mccradyi	Comb jelly	Pelagic, inhabits sh	Jelly	Horizon	Alarm		
Ocenebra inornata	Ceratostoma inornatum, Mure	sian/Japanese oyster dri	Inhabits intertidal	Univalve	Horizon	Alarm		
Paralithodes camtschaticus	Lithodes japonicusm, Lithodes	Red King crab	Uses a variety of ha	Crab	Horizon	Alarm		
Polysiphonia subtilissima	Polysiphonia angustissima, Pol	red algae	Occurs in lower int	Seaweed	Horizon			
Pseudochattonella verruculosa	Chattonella verruculosa, Verru	Alga	Planktonic, inhabit	Phytoplankto	Horizon			
Rapana venosa	Purpura venosa, Rapana margi	Asian rapa whelk	Inhadits hard sand	Univalve	Present			
Rhopilema nomadica	-	Nomad jellyfish	Pelagic, salinity tol	Jelly	Horizon			
Sargassum muticum	Sargassum (Bactrophycus) mut	apanese weed, wirewee	Attaches to rocky s	Seaweed	Present	Low	Low	
Schizoporella japonica	-	Bryozoan	Attaches to hard su	Bryozoan	Present			
Spartina townsendii var. anglica	Spartina anglica	d-grass, Townsend's grass	Grows on saltmars	Saltmarsh gra	Present	High	High	
Styela clava	Botryorchis clava, Styela barnh	Leathery sea squirt	Hard surfaces (incl	Sea squirt	Present	High	High	
Telmatogeton japonicus	-	marine splash midge	Larvae inhabit tube	Insect	Horizon			
Undaria pinnatifida	Alaria amplexicaulis, Alaria pin	Japanese kelp	Attaches to hard su	Seaweed	Present	Unknown	Unknown	
Urosalpinx cinerea	Fusus cinereus, Urosalpinx cine	American oyster drill	Prefers muddy subs	Univalve	Present	High	High	
Watersipora subatra	Watersipora edmondsoni	Bryozoan	Attaches to hard su	Bryozoan	Present			

Clare S- where else can we publish little stories to promote NMBAQC?
If anyone has any stories, then they should be approved by the contract manager or chair first to get errors or possible interpretation errors checked.

Tim- Population genetics project
Tim mentioned an opportunity to feed into a population genetics project being run by Dr Patrick Collins at QUB. I've talked to a few of you and suggested taxa of interest include *Tharyx A*, *Melinna A*. and *Chaetozone D*.
There is no cost to the contributor (other than your time effort some ETOH and postage). What we hope to get is a spatially disparate set of samples, hopefully with the target taxa in. A way to use that dodgy sample you were holding back in case a better one couldn't be retrieved! A quick sieve & float and you're in the game.

ETOH minimum would be 70%, ideally preserve in 100% ETOH. However, 70 -95% should be ok for short-term storage and transport. We will transfer to 100% ETOH for longer term storage.

The samples can be transported in tissues soaked with ETOH, postal services can get odd about transporting samples in ETOH. Action Claire M to ask around at Cefas if new surveys wish to contribute to this. Action Tim to send the information to Astrid. Post-meeting note: Tim has forwarded the details to Astrid.

David Hall asked if these were priority species for MSFD, as this list is extremely useful for auditing of own samples. Failing to identify key species would be a fail, these taxa should be correctly identified. We need to know the alarm list (http://www.biodiversitywales.org.uk/File/641/en-GB). We always try to use interesting species in the ring test, e.g. a high number of laboratories misidentified the non-indigenous Caprellid in RT50.

From contractor's representative:
The Benthic technical manager at Fugro Emu had noticed an issue with the charts in the RT bulletin and this has been reported to Apem Ltd, who have now amended these. There may be similar issues with the previous Thomson reports? It did affect the SOP for laboratories. Action Carol to send Myles all the relevant information. The current SOPs have been corrected. Action Carol to find out from Jamie which other ones might be affected. If reports are published then small typos etc should not need to be corrected after a certain amount of time, but errors that affect performance should be investigated. Action Carol/ David H to send emails to Myles to see what corrections need to be undertaken.