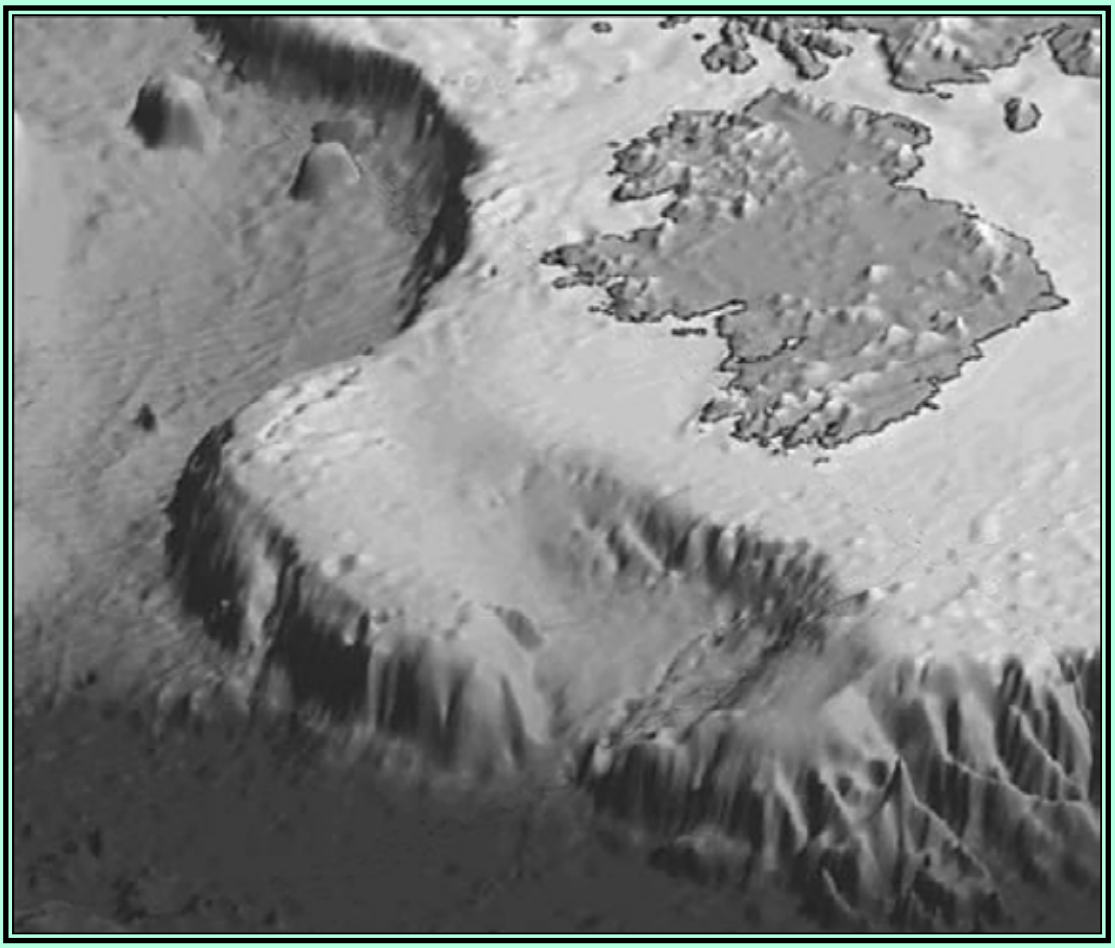
PORCUPINE MARINE NATURAL HISTORY SOCIETY

NEWSLETTER

Summer 2009 Number 26



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Porcupine Marine Natural History Society

Newsletter

No. 26 Summer 2009

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Porcupine MNHS welcomes new members- scientists, students, divers, naturalists and lay people. We are an informal society interested in marine natural history and recording particularly in the North Atlantic and 'Porcupine Bight'. Members receive 2 newsletters a year which include proceedings from scientific meetings, plus regular news bulletins

Individual £10 Student £5

www.pmnhs.co.uk

COUNCIL MEMBERS

Cover Image: This beautiful image of the Porcupine Bank was created by Bob Downie (Porcupine former council member Frank Evan's son-in-law) who is an oil sedimentologist

Editorial

My first job as new editor is to thank my predecessor, Frances, for all the time, effort and concentration she has put into this newsletter - I hope I can live up to her standards. The job is a little easier now that there are only two issues per year and I'm pleased to see a good crop of articles in this issue. I'm not planning to immediately stamp my identity on the newsletter with any radical changes (any decent editor would have spotted that split infinitive) but I will suggest one simple innovation. The newsletter is put together using colour illustrations, then converted to black and white as it goes to the printers. It is straightforward to run off a full colour pdf at this stage. If you would like to see the newsletter in its full glory (albeit, on the screen) just drop me an email.

What's in a name?

Prior to taking over from Frances, I've been helping put the newsletter together. The desktop publishing bit is not too onerous (with the right software) and there have been plenty of offers of help in gathering together enough material to fill two editions a year. That only really leaves this bit - finding something to say in the editorial.

I'm not a natural blogger, wanting to share my every thought with the world, but an editorial (***n.*** *an article in a newspaper, etc., expressing the opinion of the editor or the publishers*) does seem to require an opinion.

So - in the opinion of the editor - I am a little disturbed by what seems to be a sort of political correctness when it comes to common names of marine species. Of course, scientific names should prevail in a publication such as this but a quick look through this edition will reveal plenty of common names in use and many of our records come from interested non-scientists who prefer (at least, at first) the comfort of plain English. There are strict rules for deciding on scientific names, but who gets to say which common names we should use?

Take *Sargassum muticum*. I used to happily refer to this as Japweed or Japanese seaweed, but now I'm being encouraged to call it wireweed (and not an *alien* species). It is also now *de rigeur* to call dogfish catsharks (though, having looked into this a bit more, it seems not all dogfish are catsharks and catsharks are not, strictly speaking, dogfish).

One that can really get me worked up is "potato crisp bryozoan" - it just seems too contrived, on a par with "waste transfer operative". I know ross coral isn't a coral, but so do most people who know, or care, what it's called. And hornwrack isn't a seaweed. It's more important to know whether it's *P. foliacea* or *P. fascialis*.

Anyway, I just hope it wasn't a Porcupiner who came up with the name.

Copy deadlines for winter edition - 30 November

COUNCIL MINUTES

MINUTES OF THE COUNCIL MEETING

held on Friday 27th March 2009 at the University of Plymouth

Present were:

Julia Nunn, Frances Dipper, Anne Bunker, Paul Brazier, Roni Robbins, Roger Bamber, Peter Tinsley, Andy Mackie, Peter Barfield, Vicki Howe, Jon Moore, Fiona Crouch (co-opted)

Apologies for absence:

were received from Séamus Whyte, Sue Chambers, Tammy Horton, Sophie Henderson

Minutes and Matters Arising:

The Minutes of the last council meeting held on 29 November 2008 at the Natural History Museum, London were agreed. JN reported that it transpires that the lack of an update concerning PMNHS T-shirts since earlier correspondence from Oliver Chope was because he was awaiting a copy of the logo before supplying a sample for our assessment. RB reported that alternative suppliers he had investigated were quite unable to match the prices suggested by Oliver Chope. An electronic copy of their logo would be forwarded to him promptly. SAHFOS had been informed that PMNHS was willing to advertise their workshop, but we were unable to offer funding support. Other matters arising are all covered below.

Conference 2009:

Council was informed that 96 delegates signed up and 60 were booked for the dinner. As it was likely that the meeting would make a slight profit, it was agreed that some funds would be used to pay for wine at the conference dinner. The Council agreed that the meeting had been very well organised, and thanked Fiona Crouch (present) and her co-organisers wholeheartedly.

AGM 2009:

At the AGM, Julia Nunn will stand down as Hon. Chairman, and Frances Dipper will stand down as Hon. Editor, her co-editor Peter Tinsley assuming the role on his own. The Council's thanks to both for their exemplary and dedicated service over the last decade was repeated. Both would be standing as ordinary members of Council. Peter Barfield and Paul Brazier were retiring under Rule of Procedure 4, and both were available for immediate re-election. In addition, Fiona Crouch was proposed as a member of Council.

Finances:

Jon Moore presented the accounts to the Council. These accounts will be presented unaudited to the AGM. The accounts will be audited before being published in the newsletter. The accounts are healthy, the balance being some £2500 up on last year, partly owing to funds from the Esmée Fairbairn Foundation (see below). The 2008 Bangor Conference made a small profit, and thanks were given to Paul Kay for monies from sale of his books at that conference. SW had successfully chased up members in arrears for past, current and future (*sic*) subscriptions. There were only two Newsletters published during the financial year, although production costs were similar to last year. The Council thanked Jon for his continuing work as Treasurer.

Membership:

Séamus Whyte had sent his report to the meeting in his absence. He reported that membership currently stands at 243, including 7 libraries who obtain free copies of the Newsletter; 22 new members had joined in the last year. 40 memberships (included in counts) are currently suspended, pending contact regarding non-payment of membership; these members are not receiving the Newsletter.

Newsletter:

Frances Dipper reported that there had been two Newsletters since the last AGM, the Summer 2008 (No 24) edition and the Winter 2008/2009 (No 25) edition. She further reminded Council that the last Newsletter No. 25 was her last as Editor and she thanked everyone who has contributed over the last 10 years since she took over from Shelagh Smith, especially Peter Tinsley who took a lot of the burden when he became co-editor and took over all the layout and production. Frances had very much enjoyed being editor but felt that 10 years is long enough and that a new outlook can only help to improve our now well-known publication.

Peter Barfield reported that the CD of past Newsletters was not yet complete but should be done by the end of the year. It was suggested that whatever continuous run was available from Volume 1 Number 1 onwards should be placed on the Website.

Recording scheme:

Roni Robbins reported that she had received no new data in the past year. We continue to enter the backlog of field-trip data which has appeared in the Newsletter into *Marine Recorder*, our database of choice.

Website:

Tammy Horton had sent her report to the Council in her absence. She gave a breakdown of the number of 'hits' on the website, showing a notable increase in early 2009 (particularly week 9) in the lead-up to the AGM. "Normal" weekly numbers of hits range from about 120 to 200. Regular updates had been maintained, but there had been no progress on the gallery.

Field trip 2009:

A field trip to St Abbs in September will be explored, to coincide with the 25th anniversary of their Marine Centre; both diving and shore work are planned. PT has a boat booked for 1st and 2nd of August in Dorset (out of Poole), provisionally held for PMNHS Members for diving. Details will be repeated in the next Newsletter.

AGM and Conference 2010:

It was suggested that St Andrews would be an appropriate venue, owing to its history as a marine station, and one which Porcupine has not yet attended. AM will explore local contacts via SC.

Field trip 2010:

It is proposed to visit the Scilly Isles in Autumn 2010, under the auspices of Angie Gall of the Isles of Scilly Wildlife Trust (who is presenting at the 2009 AGM). We hope for boat-work as well as diving and shore-work.

Esmée Fairbairn Foundation DCUK Project:

JM reported that the project is on track. The 2nd instalment of the Grant came into the account in November. Of our partners, SMBA and PML were both up to date with their progress and spending. NOCS will be chased up regarding their contribution. EFF approved the annual report, even though it was delivered late.

Porcupine Grants Scheme:

The first two grants had been a success. Paul Kay would be asked for a contribution to the newsletter summarizing his project; his photo-guide would be linked to the Website. One application for a grant under the new round had been received. The deadline is 30th April (not 15th as stated on the Website), and would be announced at the AGM.

Administrative matters:

the proposed change to Rule of Procedure 11(b), changing "…. normally published three times a year" to "…. normally published twice a year" would be put to the members at the AGM on the 28th March.

A.O.B.:

Julia Nunn thanked the Members of Council for all their help and support during her tenure as Chairman.

Date of next meeting:

October 2009, Cardiff (details to be arranged by AM).

AGM MINUTES

MINUTES OF THE 32ND ANNUAL GENERAL MEETING

Held on Saturday 28 March 2009, at the University of Plymouth

Apologies for absence:

were received from Séamus Whyte, Sophie Henderson, Tammy Horton, Sue Chambers and Shelagh Smith.

The Minutes of the 31st Annual General Meeting:

as published in the PMNHS Newsletter No. 24, were accepted by the floor (proposed Keith Hiscock, seconded Roger Bamber) with no corrections or additions.

Matters arising:

There were no matters arising from the Minutes of the 31st Annual General Meeting.

Officers' Reports:

The Hon. Treasurer's Report was presented by Jon Moore, the accounts (see elsewhere) being presented to the AGM unaudited. Audited accounts will be published in the Newsletter, and are not expected to differ. Acceptance of the Hon. Treasurer's Report was proposed by Peter Barfield, seconded by Paul Brazier, and carried with no votes against.

The Hon. Membership Secretary's Report was presented by Julia Nunn on behalf of Séamus Whyte. Membership stands at 209 full, 8 student, 10 library, 4 life, 9 free (including 7 libraries plus honorary members) and 3 members of unknown status. There were no resignations, giving a total of 243 members. There had been 22 new members since the last AGM. Acceptance of the Hon. Membership Secretary's Report was proposed by Vicki Howe, seconded by Anne Bunker, and carried with no votes against.

The Hon. Editor's Report was presented by Frances Dipper, with photographic illustration. There had been two Newsletters since the last AGM in March 2008: the Summer 2008 (No 24) edition and the Winter 2008/2009 (No 25) edition. These have of course been packed full of interesting articles and papers including 5 papers from the 2008 conference. Where papers were not submitted then abstracts were published to allow readers to contact authors if they wanted to pursue the abstract content further. We intend to increase the number of papers published if possible. Porcupine pieces included articles on the spread of the barnacle *Elminius*, on polychaete taxonomy, and a new UK record of the cleaner shrimp *Periclimenes sagittifera* amongst others. More rare fish records were provided by Doug Herdson, unusual records came in from Seasearch and other individuals and were flagged up in the newsletter with the hope of getting you all to keep your eyes open for similar occurrences.

Finally, Frances pointed out that Newsletter No. 25 was her last as Editor and she thanked everyone who had contributed over the last 10 years since she took over from Shelagh Smith. She especially thanked Peter Tinsley who took a lot of the burden off her shoulders when he became co-editor and took over all the layout and production. She had very much enjoyed being editor but felt 10 years was long enough and that a new outlook could only help to improve our now well-known publication. Acceptance of the Hon. Editor's Report was proposed by Roger Bamber, seconded by Doug Herdson, and carried with no votes against.

The Hon. Web-site Officer's Report was presented by Julia Nunn on behalf of Tammy Horton. The web-site continues to be updated as frequently as possible, and was monitored by the number of 'hits' on the website, which had shown a notable increase in early 2009 in the lead-up to the AGM. Acceptance of the Hon. Web-site Officer's Report was proposed by Peter Barfield, seconded by Steve Jarvis, and carried with no votes against.

The Hon. Records Convenor's Report was presented by Roni Robbins, who reported that she had received no new data in the past year. We continue to enter the backlog of field-trip data which has appeared in the Newsletter into *Marine Recorder*, our database of choice. The opportunity was taken to remind and encourage our members to continue to submit their records to scheme: the success of the scheme depends on as much input from the membership as possible. If any of the members still don't understand what this scheme is about they are encouraged to ask. Acceptance of the Hon. Records Convenor's Report was proposed by Andy Mackie, seconded by Anne Bunker, and carried with no votes against.

The Hon. Chairman's Report was presented by Julia Nunn. The Council has held two meetings in the past year. These have been at the Darwin Centre, NHM on 29th November 2008, and here in Plymouth on 27th March 2009. A successful meeting was held in March 2008 at Bangor, North Wales on 'Marine biodiversity: hotspots and coldspots' attended by 73 delegates with 20 speakers and 14 posters. A field trip after the meeting to the Inland Sea attracted 13 participants. The Council thanks Paul Brazier and his team for organising the meeting and fieldwork. The PMNHS field meeting was held in October 2008 to Pembrokeshire, with the theme of invasive aliens. This was attended by 15 people – thanks go to Anne Bunker for organising this very enjoyable trip.

DCUK2 report: JM reported that the project is on track. The second instalment of the Grant came into the account in November. Of our partners, SMBA and PML were both up to date with their progress and spending and NOCS will be chased up regarding their contribution. Importantly, the Esmée Fairbairn Foundation, from whom the grant has come, had approved the annual report.

Under the PMNHS small grant scheme, two grants were awarded in 2008. These were to (a) Paul Kay to study the use of photography as tool for identification of gobies (b) Shelagh Smith to identify molluscan material in the Challenger collections held at National Oceanography Centre, Southampton. This small grant scheme is also to run in 2009, with a closing date of 30th April. It is an opportunity to apply for funding for small research projects for 1-3 months duration within the objectives of the Society. Details appear on the website. Frances Dipper is standing down as Editor of the PMNHS Newsletter after many years of service to the Society producing this excellent publication. Enthusiastic thanks were given by those present! Thanks were also given to the organisers of the Plymouth meeting.

Finally, Julia pointed out that she was also stepping down after 10 years; first a year as Executive Officer and then 9 years as Chair. "I would like to thank all the members of Council over those years for their support – you have made my job so easy!" Acceptance of the Hon. Chairman's Report was proposed by Frances Dipper, seconded by Keith Hiscock, and carried with no votes against.

Porcupine Grants Scheme:

Julia Nunn reported that the first two grants had been a success. Paul Kay (photo-guide to British gobies) would be asked for a contribution to the newsletter summarizing his project; his photo-guide would be linked to the Website. One application for a grant under the new round had been received. Details of the scheme were on the Website. The deadline for a second round of applications had been extended until 30th April (not 15th April as stated on the Website).

Election of Officers and Council:

The motion was proposed to retain all the Office Bearers, with two changes: Julia Nunn stepping down and Andy Mackie standing for election as Hon. Chairman; Frances Dipper standing down and Peter Tinsley standing for election as Hon. Editor. Both Julia and Frances were standing for Ordinary membership of Council. Two members of Council, Peter Barfield and Paul Brazier, were retiring under Rule of Procedure 4, and were available for immediate re-election. There was one other new candidate, Fiona Crouch, proposed for election to Council by Roger Bamber, seconded by Peter Barfield.

The election of all those proposed was proposed by Bob Earll, seconded by Martin Davis, and carried with no votes against.

The Council for 2009-2010 is as follows.

Office Bearers:

Hon. Chairman - Andy Mackie

Hon. Secretary – Roger Bamber

Hon. Treasurer – Jon Moore

Hon. Editor – Peter Tinsley

Hon. Membership Secretary – Séamus Whyte

Hon. Records Convenor – Roni Robbins

Hon. Web-site Officer – Tammy Horton

Ordinary Members of Council:

Peter Barfield

Paul Brazier

Anne Bunker

Sue Chambers

Frances Dipper

Sophie Henderson

Vicki Howe

Julia Nunn

Future meetings:

The Autumn 2009 Field meeting will be at St Abbs, in September. In addition, there will be a two-day diving trip in Dorset in August, organised by Peter Tinsley.

The AGM in 2010 is proposed to be in St Andrews.

The Autumn 2010 Field Meeting will be in the Scilly Isles.

A.O.B:

Roger Bamber put to the AGM the proposal of the Council that Julia Nunn would be made an Honorary Life Member of PMNHS, in recognition of her outstanding and dedicated efforts for PMNHS over the last decade, not least in rescuing the Society from the brink of disaster. The proposal was carried unanimously. Anne Bunker presented to the AGM a history of Julia's Chairmanship, and Julia was presented with a mounted molluscan photomontage and a limited-edition print of *Fragum erugatum* in commemoration of and gratitude for her service to the Society.

The meeting closed at 13:07.

Report of the Porcupine Field Meeting, Pembrokeshire, Thurday 16th, Friday 17th and Saturday 18th October 2008.

Report by Anne Bunker

Fifteen Porcupines turned out during the three days of the field meeting. We enjoyed good weather, particularly on the Thursday and Friday. We visited Pennar Gut, Pembroke Ferry, Neyland Marina, and Wear Point in Milford Haven and Saint Govan's platform on the open coast. Hundleton village hall served as the meeting point and laboratory. The old, sprung and bouncy wooden floor will not recommended this hall as a good venue for setting up microscopes in the future though.

Plenty of alien species were recorded from the Haven. Slipper limpet *Crepidula fornicata* numbers were recorded at Pennar Gut, Wear Point and Pembroke Ferry. Portugese oyster *Crassostrea gigas* numbers were also recorded at Pennar Gut. An interesting and interested local met us on the shore at Wear Point to show us the individual oysters he had photographed recently!

A report for the sheltered Haven shores is being produced separately to include some information and discussion on the alien species recorded.

Everyone seemed to enjoy the field meeting and we collected good records for the sites visited, all of which will be added to Marine Recorder. Thanks to everyone who turned up and contributed to a successful meeting: Chris Barnes, Alison Bessel, Kathryn Birch, Anne Bunker, Francis Bunker, Paul Brazier, Robin Crump, Angela Gall, Richard Joseph, Jon Moore, Julia Nunn, John Ryland, Ruth Sharratt, Shelagh Smith and David Hurd.

Saint Govan's Platform, 17 October 2008.

From the cliff top we could see Worms Head on the tip of the Gower Peninsula, about thirty miles away and with some imagination were just able to make out Lundy island, thirty five miles to the south. Although the day was calm and sunny, there was still the usual swell coming in from the Atlantic. With a southwesterly prevailing wind and a fetch of over four thousand miles, all the way from South America, this shore is extremely exposed to wave action and can be very dangerous with an on shore wind. On the day of our visit we were blessed with calm seas and only an unusually small swell.

The shore access here is at the only point on the coast where there is an approach to the sea for several miles on either side. The descent, over one hundred feet from the flat cliff top to the sea, is via steps right through the tiny Saint Govan's chapel built to commemorate the saint who died here in 586.

The shore consists of a carboniferous limestone wave-cut platform, backed by vertical cliffs. Deep rockpools, overhangs, crevices and channels provide a variety of microhabitats. This range of habitats and the usual rich communities associated with the limestone shores in this area produced a particularly extensive species list. Longer in the laboratory would undoubtedly have lengthened the list considerably.

Circular pebble pool in the coralline algae covered horizontal bedrock. A. Bunker.

Chondracanthus acicularis on the horizontal platform. A. Bunker.

Kathryn, Julia, Paul and Anne looking at seaweeds on the wave-cut platform. A. Gall.

Species list

Site Name: St Govan's Platform

Lat/long: 51ø35.93 N 004ø56.29 W Grid reference: SR965930

Date: 17 OCT 2008

FUNGI

Lichina pygmaea (Lightf.) C. Agardh

Verrucaria mucosa Wahlenberg

Verrucaria maura Wahlenberg

PORIFERA

Grantia compressa (Fabricius, 1780)

Leuconia nivea (Grant, 1826)

Dercitus bucklandi (Bowerbank, 1866)

Cliona stellata (Grant, 1826)

Myxilla incrustans (Johnston, 1842)

Pachymatisma johnstonia (Bowerbank, 1842)

Halichondria panicea (Pallas, 1766)

Hymeniacidon perleve (Montagu, 1818)

Esperiopsis fucorum (Esper, 1794)

Haliclona Grant, 1835

Aplysilla sulfurea Schulze, 1878

CNIDARIA

Aglaophenia tubulifera (Hincks, 1861)

Dynamena pumila (Linnaeus, 1758)

Sertularella gayi (Lamouroux, 1821)

Actinia equina (Linnaeus, 1758)

Anemonia viridis (Forsskål, 1775)

Urticina eques (Gosse, 1859)

Aulactinia verrucosa (Pennant, 1777)

Sagartia elegans (Dalyell, 1848)

Cereus pedunculatus (Pennant, 1777)

ANNELIDA

Eulalia viridis (Linnaeus, 1767)

Spirorbis Daudin, 1800

Spirorbis corallinae de Silva & Knight-Jones, 1962

CRUSTACEA

Verruca stroemia (O F Müller, 1776)

Chthamalus montagui (Southward, 1976)

Chthamalus stellatus (Poli, 1791)

Semibalanus balanoides (Linnaeus, 1767)

Balanus perforatus (BrugiŠre, 1789)

Cancer pagurus (Linnaeus, 1758)

Necora puber (Linnaeus, 1767)

Carcinus maenas (Linnaeus, 1758)

Pilumnus hirtellus (Linnaeus, 1761)

MOLLUSCA

Lepidochitona cinerea (Linnaeus, 1767)

Tricolia pullus (Linnaeus, 1758)

Gibbula umbilicalis (da Costa, 1778)

Tectura virginea (O F Müller, 1776)

Patella depressa (Pennant, 1777)

Patella ulyssiponensis (Gmelin, 1791)

Patella vulgata (Linnaeus, 1758)

Helcion pellucidum (Linnaeus, 1758)

Littorina saxatilis (Olivi, 1792)

Melarhaphe neritoides (Linnaeus, 1758)

Eatonina fulgida (J Adams, 1797)

Rissoa interrupta (J Adams, 1800)

Rissoa parva (da Costa, 1778)

Trivia monacha (da Costa, 1778)

Nucella lapillus (Linnaeus, 1758)

Mytilus edulis (Linnaeus, 1758)

Heteranomia squamula (Linnaeus, 1758)

Hiatella arctica (Linnaeus, 1767)

BRYOZOA

Membranipora membranacea (Linnaeus, 1767)

Electra pilosa (Linnaeus, 1767)

Schizomavella linearis (Hassall, 1841)

Umbonula littoralis Hastings, 1944

Crisia denticulata (Lamarck, 1816)

Crisia eburnea (Linnaeus, 1758)

ECHINODERMATA

Asterina gibbosa (Pennant, 1777)

Ophiothrix fragilis (Abildgaard, 1789)

CHORDATA

Nerophis lumbriciformis (Jenyns, 1835)

Lipophrys pholis (Linnaeus, 1758)

TUNICATA

Dendrodoa grossularia(Van Beneden, 1846)

MAMMALIA

Halichoerus grypus (Fabricius, 1791)

RHODOPHYTA

Palmaria palmata (Linnaeus) Kuntze

Rhodothamniella floridula (Dillwyn) J Feldmann

Corallinaceae

Corallina officinalis Linnaeus

Mastocarpus stellatus (Stackhouse) Guiry

Chondracanthus acicularis (Roth) Fredericq

Chondrus crispus Stackhouse

Callophyllis Kützing

Acrosorium venulosum (Zanardini) Kylin

Aglaothamnion byssoides (Arnott ex Harvey) L'Hardy-Halos et Rueness

Polysiphonia brodiaei (Dillwyn) Sprengel

Polysiphonia stricta (Dillwyn) Greville

Gastroclonium ovatum (Hudson) Papenfuss

Lomentaria articulata (Hudson) Lyngbye

Callithamnion tetragonum (Withering) S F Gray

Ceramium Roth

Ceramium shuttleworthianum (Kützing) Rabenhorst

Halurus equisetifolius (Lightfoot) Kützing

Plumaria plumosa (Hudson) Kuntze

Cryptopleura ramosa (Hudson) Kylin ex Lily Newton

Haraldiophyllum bonnemaisonii (Kylin) A Zinova

Membranoptera alata (Hudson) Stackhouse

Osmundea hybrida (De Candolle) Nam

Osmundea osmunda (S Gmelin) Maggs et Hommersand

Osmundea pinnatifida (Hudson) Stackhouse

Polysiphonia fucoides (Hudson) Greville

CHROMOPHYTA

Dictyota dichotoma (Hudson) Lamouroux

Saccorhiza polyschides (Lightfoot) Batters

Laminaria digitata (Hudson) Lamouroux

Halidrys siliquosa (Linnaeus) Lyngbye

Fucus serratus (Linnaeus)

Himanthalia elongata (Linnaeus) S Gray

CHLOROPHYTA

Ulva lactuca Linnaeus

Chaetomorpha melagonium (Weber et Mohr) Kützing

Cladophora Kützing

Bryopsis plumosa (Hudson) C Agardh

FIELD TRIP

Porcupine Autumn Fieldtrip - St. Abbs, Scottish Borders
Saturday 3rd – Monday 5th October

St. Abbs (http://www.stabbs.org/welcome.html) is situated on the East coast of Scotland, 12 miles north of Berwick upon Tweed and only a few miles off the A1. This area has something for everyone interested in the marine environment: spectacular coastline, extensive rocky shores, sandy beaches and some of the best diving in the UK. It also lies within the St. Abbs and Eyemouth Voluntary Marine Reserve, celebrating its 25th Anniversary this year.

There are two options on this fieldtrip, surveying the rocky shore and diving. There is plenty of time for those of you who would like to do both. People not diving will have the opportunity to go on a boat trip in the evening to experience the spectacular coastline of the St. Abbs Head National Nature Reserve, from the sea.

Rocky shore survey

The plan is to survey the rocky shore to the north of Coldingham Sands and Linkum shore to the south. We have the use of Coldingham village hall in the afternoon to have a closer look at specimens. Please bring a microscope if you have one. Our aim at the end of the three days is to provide the St. Abbs and Eyemouth VMR with a comprehensive species list. No experience necessary just lots of enthusiasm.

Diving

The diving around St. Abbs Head is spectacular and you can get some of the best visibility in the UK. The dive boat Selkie http://www.stabbs.org/selkie.html has been booked for the Saturday and Sunday, there will also be the option to either boat or shore dive on the Monday. Our skipper Pete Gibson is the best and most entertaining skipper at St. Abbs, if you don't mind a few dirty jokes! The cost per dive is £10. You can do either one or two dives a day. Please indicate the day and the number of dives on the booking form. Air/Nitrox and equipment hire is available at Scoutscroft Dive Centre (http://www.scoutscroft.co.uk/diving.html).

There are 10 places available on the boat per dive so book early to save disappointment. For those of you familiar with Seasearch, I'm sure the VMR would appreciate a bit of form filling.

There will be a group meal at the New Inn, Coldingham on Saturday night. Please tick the appropriate box on the booking form to reserve your place.

I hope you will be able to join us. What ever the weather it will be an interesting and most of all FUN fieldtrip. If you have never been to St. Abbs now's your chance. If the weather is rubbish then we can always have a go at surfing! Yes you can go surfing at Coldingham Sands.

Please send your completed booking form to Fiona Crouch, Marine Biological Association, Citadel Hill, Plymouth, Devon. PL1 2PB. Email ficr@mba.ac.uk

BOOKING FORM

Please indicate whether you are going to take part in the rocky shore survey, want to dive, how many and on what day and you would like a meal at the New Inn on Saturday night

Name	
Contact details	**Email:** **Phone:**
Rocky shore survey	
Diving	
Saturday am	
Saturday pm	
Sunday am	
Sunday pm	
Monday	
Meal Saturday night	
Dietary requirements	

Please return to Fiona Crouch Marine Biological Association, Citadel Hill, Plymouth, Devon. PL1 2BP. email ficr@mba.ac.uk

Accommodation List

Below are a few suggestions for B&B's in the area. If you have any problems finding accommodation then please let me know as I have a few other contacts. If you are feeling adventurous or money is a bit tight then you could try wild camping at Coldingham Sands.

Millrace Cottage, Northfield Farm, St. Abbs, Berwickshire, TD14 5QF **Tele:** 018907 71346 **Mobile:** 07861 389224 **E-mail:** louise@woolfish.co.uk

Springbank Cottage, The Harbour, St. Abbs, Berwickshire, TD14 5PW **Tele:** 018907 71477 **Fax:** 018907 71577 **E-mail:** davemac55@hotmail.com **Website:** www.springbankcottage.co.uk

Priory View, Eyemouth Road, Coldingham, Berwickshire, TD14 5NH **Tele:** 018907 71525 **Mobile:** 0777 644 7183 **E-mail:** prioryview@btinternet.com **Website:** www.prioryview.com

Dunlaverock House, Coldingham Sands, Coldingham, TD14 5PA **Tele:** 018907 71450 **Fax:** 018907 71103 **E-mail:** info@dunlaverock.com **Website:** www.dunlaverock.com

Rhovanion, St. Abbs Road, Coldingham, TD14 5NR. Tele: 018907 71760. **Website** www.rhovanion.org

St. Vedas Hotel, Coldingham Bay, Coldingham, Berwickshire, Scotland. TD14 5ND. **Tele:** 08907 71679. **Email:** info@StVedas.co.uk **Website:** www.stvedas.co.uk/hotel_accommodation.htm

Groups could try renting a caravan or chalet at Scoutscroft caravan site http://www.scoutscroft.co.uk/

Porcupine Dive weekend 1st & 2nd August 2009

Charter - Peveril Myth. Licensed to carry 12 divers, facilities on board.

Skipper - Mike Markey

Cost- £40 for two days. A deposit of £20 is required to secure places.

Dives - one or two a day depending on weather and preference. All to be in Poole Bay, Swanage or Purbeck area. There will not be any dive equipment available so please can divers bring all their own gear, enough air for two dives a day and a surface marker buoy. We will be targeting features revealed in a recent high-resolution multibeam survey so there should be an opportunity to select/visit some interesting habitats.

Info - Leaving from Poole Quay, opposite Piplers Chandlers, at 8:00am on the Saturday. Sunday's diving will be at similar times although decisions can be made as a group on the Saturday according to preference, logistics and weather. Return in time for air fills at mid-afternoon on the Saturday. Beacon Hill, Dorset Wildlife Trust's Poole centre, is booked for Saturday and Sunday evening/late afternoon for looking at any samples that divers have collected and would like to discuss. There will also be the opportunity to look over photos from the dives. Beacon Hill is within about 7km of the quay and there is parking available there. Microscopes will also be available. Please see the map below for locations of the centre and the departure point for the dives.

The boat is well kitted out and has facilities on board. The wheelhouse, whilst providing an area in which to change, will not accommodate 12 if the weather is bad so please come prepared for all weather. Tea and coffee is provided but please bring your own lunch and enough water for the day.

Booking is via Kathryn at Dorset Wildlife Trust. Please email for a booking form and further information- kdawson@dorsetwildlife.co.uk

OTHER MEETINGS

30th June 2009. Common Fisheries Policy Review. London.

The aim of this one day conference will be to raise awareness of the proposals in the EU Green Paper on the Reform of the Common Fisheries Policy and in order to help a wide cross section of stakeholders fully engage in the consultation process the Commission have begun. Contact: http://www.coastms.co.uk/Conferences/CFP09.html

2nd-5th August 2009. Basking Sharks – A Global Perspective. Isle of Man.

For further conference information please contact: Fiona Gell (fiona.gell@gov.im), Mauvis Gore (mauvis@saveourseas.com), or Jackie Hall (Inter.Tech@btinternet.com). Full details and registration documents are available at: http://www.gov.im/lib/docs/daff/Wildlife/baskingsharksposter.pdf

Reply to Peter Garwood's article: "*Quality Control in Macrobenthic Analysis – am I the only one who is worried?*"

Roger Bamber, ARTOO Marine Biology Consultants, Ocean Quay Marina, Belvidere Road, Southampton SO14 5QY

Regarding the NMBAQC scheme, Peter is indeed not the only one worried: many macrobenthic scientists have been concerned for many years.

As Peter correctly pointed out, the NMBAQC Scheme was invented to establish a level of standardization for those laboratories involved in the National Marine Monitoring Programme (NMMP), and nothing more. Such a level of quality control was of course evidently necessary for inter-regional compatibility.

However, it was a standardization exercise only. Thus, apart from the ability to achieve acceptable standards in sample extraction, one important outcome was agreement over the identity of taxa – note, agreement: it was not necessary to be taxonomically correct (although, of course, eminently desirable), as long as all laboratories were calling the same taxon by the same name. Indeed, with the continuing processes of discovery and revision in the more specialized world of macrobenthic taxonomists, it is unlikely that any such scheme could be close to full taxonomic correctness (and indeed many of us are aware of numerous misidentities within the scheme over the years). However, that would not detract from the ambition of consistent compatibility.

Note also that the scheme was not (is not) any form of qualification, as the only requirement was membership of and some level of participation in the scheme. Indeed, with no level of peer-review, nor of authoritative and independent accreditation of the ability and standards of those running the scheme, it could not become a qualification *per se*.

Such a process was fine, until it attempted to expand beyond the NMMP. While involvement of outside expertise through such an expansion would obviously be of benefit to the members of the NMMP, the converse would not be true. Initially, commercial consultancies were invited to take part. As the scheme was being run by a commercial consultancy, such an arrangement clearly infringes competition laws. Equally, without impugning the ethics or intentions of anyone involved in the scheme, the very idea of a consultancy (participant) identifying material for another consultancy (organizer) who is simultaneously a competitor is both commercially and legally unacceptable in principle (as is the concept of the participant sending identified voucher material to the organizer). It is of course acceptable for other consultants to become members of the scheme willingly, given they accept these commercial risks; however, they could never be obliged to do so.

Worse was to follow, when organizations outside the NMMP, when requesting tenders for macrobenthic work, asked for membership of the Scheme as a prequalification for tendering. As has been pointed out, membership of the scheme is not a qualification, and indeed, under its existing structure, is inappropriate to commercial consultancies. Thus, demanding membership of the scheme as a prequalification for tendering falls foul of Restraint of Trade laws and is illegal.

So, to answer some of the questions posed by Peter Garwood:

Should all quality assurance be undertaken under the umbrella of the NMBAQC scheme? – certainly not: this scheme **as currently organized** can only apply to NMMP laboratories. Many "outside" organizations work to higher quality standards in any case, and should not be dissuaded from doing so.

Should the organizations intimately involved in

the development and running of the NMBAQC scheme be able to insist that contractors join? – certainly not, as such a practice would be illegal.

Is it right that the NMBAQC scheme should be portrayed as an accreditation scheme? – certainly not, as it includes no measure of ability, simply membership. Indeed, achievement of requisite standards within the scheme is itself not subject to any quality assessment nor authoritative or independent review.

That quality standards are desirable in macrobenthic analysis is of course entirely correct. Indeed, practitioners outside the Scheme are constantly in communication with each other to progress their own standards and to agree on the acceptance or otherwise of developments and revisions in this field of science, particularly as they do desire, *inter alia*, correct identification of taxa.

Whether it is feasible to organize an actual accreditation scheme in this area is debatable. It would be necessary to establish standards to be achieved, the testing of which would require independent assessment from authorities whose ability/expertise is acknowledged as being the best available, while not threatening any concept of unfair competition. The NMBAQC scheme cannot meet these ideals, and indeed does not appear to be authoritative.

To date, the only actual qualification in the macrobenthic field has been the Identification Qualification scheme (IdQ) run by the Natural History Museum, London (for whom I no longer work, and so in whom I have no vested interest). This scheme was fully testable, open to independent review, and clearly measurable as a qualification, although limited only to actual identification of taxa. Even so, it too should not be demanded as a prequalification for tendering for commercial work, as it has not been freely available.

I firmly believe that all those involved in the NMBAQC Scheme are acting with the best of intentions, and at no point would I suggest that they have any ulterior motive other than to offer a quality standard scheme to the best of their ability. Further, I consider that the forum offered by the workshops of the Scheme are valuable in widening experience and knowledge, and in allowing discussion of controversial issues. Equally, I believe that those involved have simply not considered the legal implications of the misinterpretation of the expanded scheme by those who do not actually undertake quality macrobenthic analysis.

It is also clear that expansion of this scheme outside the NMMP in its present format is unjustified, and any assumption that it acts as an accreditation scheme or a qualification is misguided.

An idea comes of age.

Frank Evans

The concept of horizontal gene transfer between species is now firmly established. Don Williamson, an early Porcupine member, long ago launched this theory into what was at the time a hostile world, to account for the taxonomically anomalous larvae of many marine animals. Now "New Scientist", which once rejected his articles, has printed a paean of praise for his work ("New Scientist", 21 January 2009, pp.34-39). Williamson holds that metamorphosis has arisen repeatedly during evolution by the random fusion of two species, sometimes widely separated genetically, with one of the partners assuming the role of the larva and the other that of the adult.

Williamson's two seminal books, "Larvae and Evolution" (1992) and "The Origins of Larvae" (2003) have both been favourably reviewed in "Porcupine Newsletter", the first in 2003 and the other in 2007, placing "Porcupine Newsletter's" notice well ahead of that of "New Scientist". Williamson's research joins recent genetic advances in leading to a revision of Darwin's concept of an evolutionary tree of strictly dichotomising branches and its replacement by a dense and frequently anastomosing bush.

Information Requests and Observations

Large Flat oyster found off Plymouth

Doug Herdson

Fish merchant Peter Randall of Mevagissey bought a box of mixed fish on Plymouth Market on Monday 11th May 2009. As he was loading it into his van he noticed a "giant" oyster in among the fish. He called me over and together we weighed it and took some photographs. He then took it to Mevagissey where Hugh Bowles measured it and put it on display in the Mevagissey Aquarium.

The oyster - a native European or Flat oyster *Ostrea edulis* - weighed 1.36 kg, and its dimensions were width 180 mm, length 170 mm and depth 70 mm. [Most oysters found around Britain now are the imported and cultivated *Crassostrea gi*gas (Portuguese, or Pacific oyster), which is now found wild in southern Britain.]

There was a similar large oyster of over 1 kg found on the shore in Valentia Harbour, Ireland, in March of this year[1], but such large oysters are few and far between. It is bigger than two found at Salcombe in 1929[2], but is beaten by one of 1.52 kg from Lough Swilly, Co. Donegal in 1972[3]. There have been reports of large oysters being caught in deep water off Brittany[1], and in the 1960s and early '70s there were said to be oysters of over 3 kg dredged up from deeper waters of the North Sea[3]. There was also a report in February 2007 of one of 1.4 kg found on the beach at Woodside Bay, near Ryde, Isle of Wight[4].

This oyster is one of the largest found around the British Isles and probably the heaviest ever recorded in the United Kingdom. *Ostrea edulis* is included in a Species Action Plan under the UK Biodiversity Action Plan and naturally occurring native oyster beds are a nationally scarce habitat. At a time when the native oyster is declining it is most heartening to find such a champion of the species.

Oysters alternate sex and a female of eight centimetres can produce up to two million eggs[5]. Hence it is reasonable to suggest that a female of this size would be capable of releasing over 3 million eggs. Large female *Crassostrea gi*gas have been shown to have 92 million eggs.

[1] T. Creedon (2009) Giant oyster is a pearl of a find. *The Kerryman*, 2nd April 2009.

[2] Orton, J. H. and Amirthalingam, C. (1930) Giant English Oysters (*O. edulis*). *Nature* (30.08.1930), No. 3174, Vol. 126, p 309

[3] Whilde, A. (1974) An exceptionally large oyster from Lough Swilly, Co Donegal. *Irish Naturalists Journal*, 18(2), 54.

[4] BBC Hampshire online, http://news.bbc.co.uk/2/hi/uk_news/england/hampshire/6406129.stm

[5] H.A. Cole (1941) The fecundity of *Ostrea edulis*. *J. Mar. Biol. Assoc. U.K.* 24, 243-260.

Doug Herdson
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94 Dunstone View
Plymstock
Plymouth. PL9 8QW
Email: Douglas.Herdson@ btinternet. com
Telephone: +44(0)1752 405155

Mass stranding of hyperiid amphipods on north-east beaches

Peter Tinsley

On a visit to Redcar beach in May this year I noticed that the sands were strewn with what looked like tiny sandhoppers, collected into drifts in places. I scooped up a handful and found that some were still alive.

They turned out not to be sandhoppers, but pelagic hyperiid amphipods, probably *Themisto sp.* and had been washing up on the beach for at least a couple of weeks. I also saw them about 5 miles further south at Saltburn and there were reports from Whitby[1] and from the east coast of Scotland (St Abbs)[2].

There was a similar stranding reported in 1966 along the same coast, when the beaches were "turned white".[3]

I was on the same beach at Christmas and saw several Ray's bream washed up along the shore. I remember this being a frequent occurence when I was growing up here in the 70s - so much so that there was (and possibly still is) a specific rule in the local angling club banning the weighing in of Ray's bream in a competition. I'm not suggesting the two are connected but it is interesting that both events have re-occured after an interval of about 40 years.

[1]Beach Death Holocaust - http://whitbypopwatch.blogspot.com/2009_05_01_archive.html

[2] St Abbs and Eyemouth Voluntary Marine Reserve - Latest News - http://www.marine-reserve.co.uk/volunteers-conservation/news/article.php?id=35

[3] J. S. Gray & R. A. McHardy (1967) Swarming of Hyperiid Amphipods Nature 215, 100: doi:10.1038/215100a0

HMS "Porcupine": email exchanges

Frank Evans

From: John Stövring-Nielsen, Fårösu to Julia Nunn

Sent: 17 January 2009

Subject: About HMS Porcupine

Dear mme Julia Nunn,

I`m John Stovring, teacher of history att the shool att Farosoud, Gotland, Sweden.

I`m trying to write lokal history about the Brittish visiting us during the Russian war.

The lokal papers tells that the ship HMS Porcupine (and HMS Lightning) Visited Farosound strait, making researge for the Royal Navy in April 1854.

I whould be very happy if you could help me whit historikal information about the researge, the ship and her crew, pictures...

Hopefully, John Stovring

From: Julia Nunn to Frank Evans

Sent: 21 January 2009

Subject: About HMS Porcupine

Hi Frank

Would you be willing to take on this enquiry on behalf of PMNHS?

Many thanks - and best wishes for 2009!

Julia

From: Frank Evans to Julia Nunn

Sent: 21 January 2009

Subject: About HMS Porcupine

Hi Julia

Will do what I can but am not too sure what he is after, e.g. which Russian war (no Swedish-Russian war since 1809 - Google)? More if something develops.

Regards,

Frank

From: Julia Nunn to Frank Evans

Sent: 21 January 2009

Subject: About HMS Porcupine

Thanks very much Frank - the enquiry is one of those sort that essentially asks for everything!! We get enquiries here where people ask for 'everything you know about foxes' and similar. Always very awkward to answer!!

best wishes

Julia

From Frank Evans to John Stovring

Sent: 22 January 2009

Subject: Porcupine

Dear John Stovring,

Julia Nunn of the Porcupine Marine Natural History Society has passed your message to me. HMS "Porcupine" was a famous ship that made the first deep-sea dredge to bring up living animals from the abyss; this was in 1869. I expect you know about this.
The ship was built in 1844 and I append a copy of the only known picture of her. I have taken this picture from "British Oceanographical Vessels 1800-1950" by Tony Rice, published by The Ray Society, 1986, ISBN 903874 19 9. This gives an account of the ship's life until she was sold in 1883.

Are you interested in the scientific voyages of 1869 and 1870 or more especially in her visit to Farosound in 1854?
I did not understand your reference to the Russian war. Which war was this - 1809 or 1941?
All good wishes,

Frank Evans, member, Porcupine MNHS

From John Stovring to Frank Evans

Sent: 23 January 2009

Subject: Re Porcupine

Dear Frank Evans

I thank you very much for spending my some of your time.

The russian war I refer to was 1853 to 1856. The main battles occured at Crimea (charge of the light brigade etc). A large number of ships from Royal Navy and the french fleet operated in the Baltic Sea. The British and French forses used Farosoud as a naval base (like Balaklava at Crimea) for two summer seasons (1854 and 1855). There are many meories left. The seabottom is full of broken china and other things. There are also a lot of skeletons on the seabottom from seaburials, there are tombstones on the churchyard telling about brittish officers buried here, and so on. We have a lot of lokal histories from this time but most of the stories are told in our own lokal papers and from elder people telling what their relatives told them. Nearly nothing are to be found of what the brittish and french experienced. This is what I´m trying to find out but that´s not easy. I dont know where to search. That´s wy I wrote to you.

In the paper from 1854 there is an amasing story vere people see the first ship arrive. First they think that the ship is burning because of the smoke. Then they are amased about the ship comming into the soud whitout sails and still at a god speed. They have´n´t seen steamships before. Then the ship starts to go back and forth doing mysterious things. After a while the lokal mearchantman tells the farmers that the ship is HMS Porcupine and that she is examining the area to fin out the nautical conditions. After a few days the ship leaves and after another few days HMS Ligthning apears and then a lot of tramps whit tons of coal to the warships. Then Farosoud look likes the base at Balaklava (shown by Roger Fenton and his fotos [famous Crimean War photographer: F.E.]). I have read your pages of Porcupines fantastic adventures at 1869 and I hoped that you maybe have something to tell about Porcupines visit (If it is true that she was here, I cant be 100% sure).

Best wishes John Stovring

From Frank Evans to John Stovring

Sent: 24 January 2009

Subject: Re Porcupine

Dear John Stovring

Like every schoolboy here, I knew about the Crimea but I had no idea of the Russian war in the far north at the same time. Unfortunately I am not a historian but a marine biologist (retired) and so have no specialist knowledge of historical research. May I suggest you contact the National Maritime Museum in Greenwich and the United Kingdom Hydrographic Office, Taunton (both online) for information about the "Porcupine" for the period 1854-1855. Her logbooks will exist somewhere. I have some facts about Captain Calver who commanded

the "Porcupine" during her famous voyages but he did not take command until 1863.

May I please have your permission to copy your note about the visit to Farosoud of both "Porcupine" and "Lightning". It would be published in our "Porcupine Newsletter" and I am sure our members would be very interested. If your researches turn up further material I would be more than pleased to hear about it. With all good wishes,

Frank Evans

From John Stovring to Frank Evans

Sent: 26 January 2009

Subject: Re Porcupine

Dear Frank Evans,

I thank you for answering me and of course you may use my notes for publishing. I will send you a better note about the visit whit more details. I will also try to kontakt the National Maritime Museum in Greenwich and the United Kingdom Hydrographic Office.

Whith all good wishes to,

John Stovring

[Further transmissions if more transpires. Frank Evans]

PORCUPINE 2009
FROM THE SEASHORE TO THE SEA FLOOR

Papers from the PMNHS meeting held at Plymouth University from 27th to 29th March 2009

Habitat suitability for cold-water corals at global scales

Andrew J Davies

School of Ocean Sciences, Bangor University, Menai Bridge, LL59 5AB, UK.

John M Guinotte

Marine Conservation Biology Institute, 2122 112th Avenue NE, Suite B-300,

Bellevue, WA 98004 USA.

Several species of cold-water corals are significant autogenic ecological engineers that can form large reef frameworks, providing habitat for many other organisms (Jensen & Frederiksen, 1992). These reef structures can be over forty metres tall and may extend for several kilometres, yet the environmental factors controlling their occurrence remain poorly understood (Davies et al., 2008). One approach that can improve our knowledge of these species is predictive modelling. This is becoming increasingly used in conservation, research and surveys. However, several limitations have restricted the utility of this approach in the deep sea. These range from issues with the accuracy of species presences, the lack of reliable absence data and the limited resolution of environmental datasets (Davies et al., 2008). In recent work that we presented at the PMNHS meeting, we addressed the preceding issue by using an up-scaling rather than downscaling technique to create environmental layers that can be used to model habitat suitability. As a result our grids now work on a 1 km cell size; the smallest size of all the 26 variables incorporated into our models. We included data sources from geophysical, oceanographic, chemistry and biological sources. This has significantly improved upon earlier predictions.

There are six main reef framework-forming coral species in deep waters. The most widespread is *L. pertusa*, which forms bush-like colonies that can measure several metres across consisting of many thousands of coral polyps (Freiwald et al., 2004). Over time, continual coral growth can produce large reef structures often dominated by *L. pertusa* but also containing other secondary framework-constructing Scleractinia of the genera *Madrepora*, *Desmophyllum*, *Oculina*, *Goniocorella* and *Solenosmillia*. Other species include solitary cup corals and other less extensive framework formers. In total, our preliminary predictions used 4140 records from 639 species of *Scleractinia* collated from literature sources, cruise reports and personal communications.

To model habitat suitability, we used the presence-only technique Maxent (Phillips et al., 2006). Maxent is short for maximum entropy, with the basic principle that the best approach to uncover an unknown probability distribution (i.e. a species niche over specific environmental variables) is to maximise entropy. Distributions with higher entropy are less constrained and are likely to be more representative of an organism's response to an environmental variable. We randomly partitioned the species location data into training (3105 records) and test (1035) sets. Our predictions revealed suitable habitat on the slopes and banks of continental shelves throughout the world (Figure 1). In contrast to our earlier predictions, our models also identify numerous seamounts as suitable habitat (Figure 2). These predictions are preliminary and are likely to be refined in the near future. Given the vulnerability of these ecosystems, it is becoming increasingly important that our predictions are both applicable and reliable at a range of spatial scales. This continual development of methodology is required before predictive modelling can mature into a useful conservation and management tool in the deep sea.

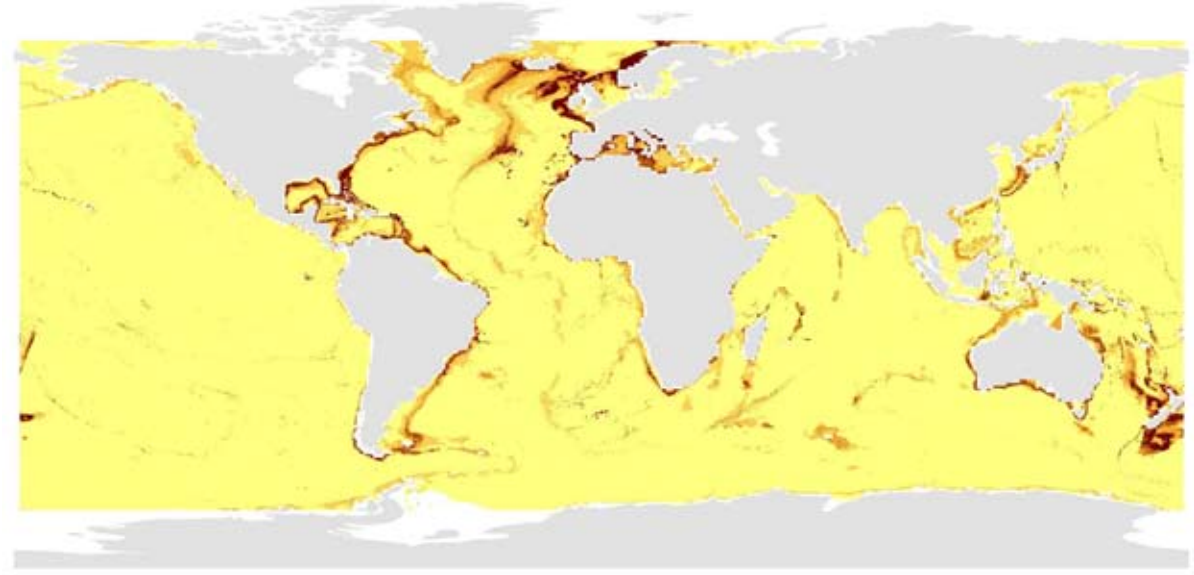

Figure 1. Global habitat suitability for Scleractinia.

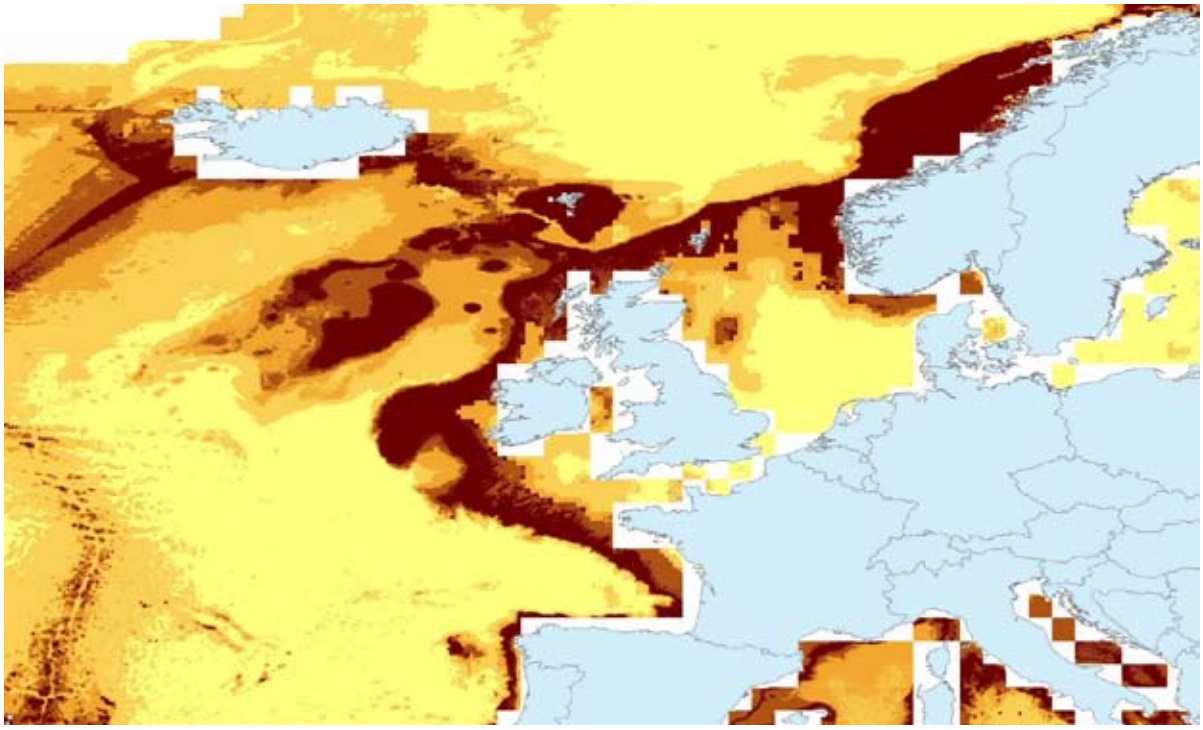

Figure 2. North East Atlantic habitat suitability for Scleractina.

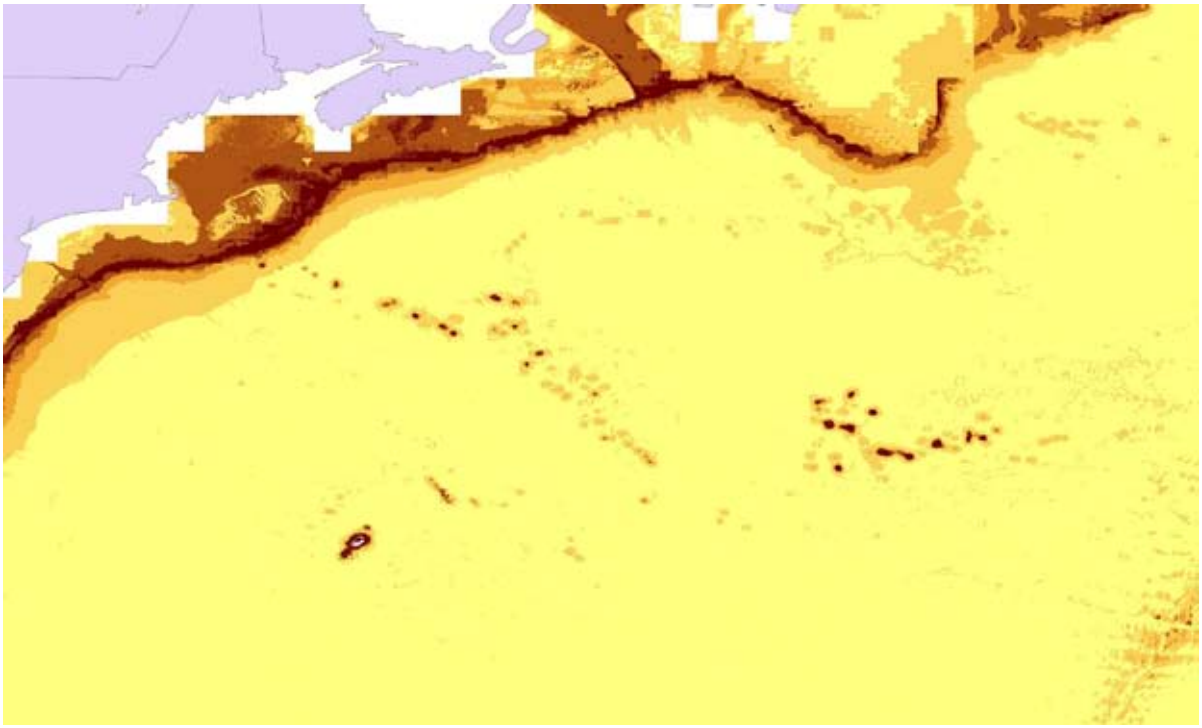

Figure 3. Suitability of the New England Seamount chain for Scleractinia.

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Freiwald, A., J. H. Fosså, et al. (2004). Cold-water coral reefs. Cambridge, UK, UNEP-WCMC: 84 pp.

Jensen, A. and R. Frederiksen (1992). The fauna associated with the bank-forming deep-water coral Lophelia pertusa (Scleractinaria) on the Faroe Shelf. Sarsia 77(1): 53-69.

Phillips, S. J., R. P. Anderson, et al. (2006). Maximum entropy modeling of species geographic distributions. Ecological Modelling 190(3-4): 231-259.

Problems in Bivalve Taxonomy

Anna Holmes
National Museum of Wales

Deep-sea research has expanded since the 1960s, and there is now a commercial interest in the outer shelf and bathyal benthos due to expanding oil and gas exploration. With this increase in exploitation there are a greater number of environmental impact surveys being carried out. The majority of bivalve taxa found in these regions are not included in Norman Tebble's book *British Bivalve Seashells* (1966) which was restricted to species found from the intertidal to the shelf but excluded many species found in deeper water or on the northern and southern extremeties. In the last forty years, there have been numerous changes in the nomenclature such that Tebble's book is frequently at odds with the current checklists of Smith & Heppell (1992) and *The Species Directory* (1997) and the web-based CLEMAM (Checklist of the Marine Mollusca of Europe and the Mediterannean).

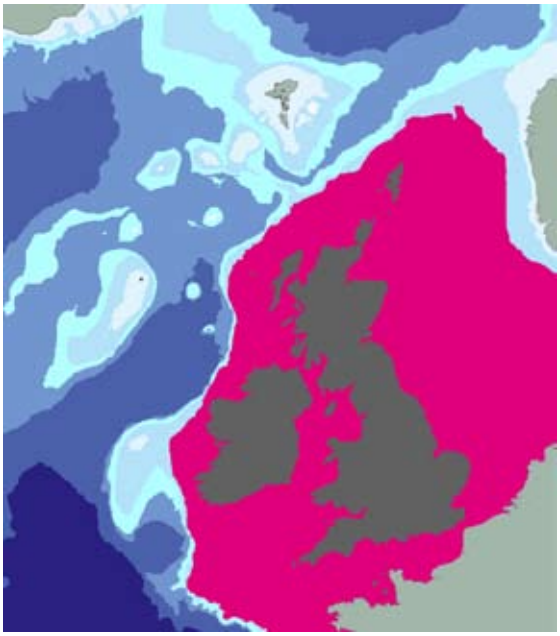
This lack of adequate literature has been reflected in the poor taxonomy seen in much of the grey literature concerning the environmental impact surveys. In general ecologists find that most bivalves are represented in their samples by the early growth stages and that these were often unlike the adults and difficult to identify. Such was the state of taxonomy in EIAs that the Atlantic Frontier Environmental Network began to promote taxonomic research and this web site is a direct consequence of that initiative.

It was decided that an electronic product would be ideal for this kind of project that deals with changes and/or additions to nomenclature. The resulting website therefore aims to deliver:

- An identification aid to all bivalves found in waters around the British Isles, including those found in the EEZs of the United Kingdom, Republic of Ireland and the Channel Islands.
- The bathymetric coverage is from the intertidal to the abyss (5000m.)
- An identification aid to all bivalves listed in Smith & Heppell including those not yet recorded from the British Isles but living in close proximity.
- Where available both juvenile (0.5mm) and adult stages are illustrated.

The website will soon be available to all. A website address will be emailed to all who attended the last Conference (27th-28th March 2009).

Fig.1) Nucula nitidosa size series. An example of one of the plates illustrating differences in juvenile and adult stages.



2) Distribution of Nucula nitidosa. An example of one of the distribution maps on the website.

Changes in the plankton revealed by the CPR survey in recent years

J. Alistair Lindley

Sir Alister Hardy Foundation for Ocean Science

Abstract

The Continuous Plankton Recorder survey has provided data on variability in the abundance, geographical distributions and seasonal cycles of plankton in the North Sea since 1932 and the northeastern Atlantic since 1947. The northwestern Atlantic has been sampled since 1959 (with a break in the 1980s) and following a trial in1997, regular tows have been taken in North Pacific since 2000. (Reid et al., 2003). The wide spread of data provides the basis for describing the biogeography of epiplanktonic organisms (e.g. Barnard et al. 2004). The time series of data have made it possible to define large scale changes in the distributions and abundance (e.g. Beaugrand, 2005) and variability in phenology (Edwards and Richardson, 2004). Notable events observed in the plankton in recent years have included the occurrence of exceptional numbers of pipefish; the discovery in the Atlantic of a diatom which is common in the North Pacific but was not previously recorded in the north Atlantic survey and changes in the meroplankton.

Over many years pipefish were rare in the survey, no more than five specimens occurring per year. From 2003 many were noted, mainly in the Atlantic west of Britain as far out as the mid-Atlantic ridge. There was a peak in abundance in May 2004 when forty occurred in the survey. It was established that the species responsible was the snake pipefish, *Entelurus aequoreus* (Kirby et al. 2006).

The diatom *Neodenticula seminae* was recorded in the CPR samples from the trial tows in the Pacific in 1997. It had not been noted in the Atlantic samples but then it was found in 1999 in samples taken between Iceland and Newfoundland and has occurred in the same area with occurrences between Nova Scotia and the Iceland-Faroe area in each year since. Canadian researchers have independently found the species in their samples. Deep-sea cores showed that the species had been present in pre-glacial north Atlantic sediments from >800000 years. The most likely explanation for this is the warming of the Arctic, allowing transport of the species through the North-West passage (Reid et al., 2007).

In the North Sea there have been major changes in the abundance and phenology of the meroplankton. In recent years both echinoderm larvae and decapod larvae have increased in abundance with a significant advance in timing of the seasonal cycles. In contrast bivalve larvae have declined. The change in seasonal cycles is consistent with known effects of temperature on the reproduction (e.g. Kirby et al, 2007). The changes in abundance of echinoderms and decapods are negatively correlated with cod stocks, the decline of which has been related to mismatch in the holoplankton (Beaugrand et al. 2003). It is suggested that reduction in predation by demersal fish has enabled the decapods to increase, but many of these are predators of bivalves and the decline of the numbers of their larvae may be a consequence (Kirby et al. 2009).

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A question of colour – answers on a postcard please....

Sally Sharrock

Colour underwater has always fascinated me, especially as an underwater photographer. We all know we lose the colours of the spectrum the deeper we go. So why is there still so much colour down there, and what is it for?

Why should a sea urchin need to be pink, mauve or deep red when it has all the protection it needs from its spines, reproduction is carried out without any physical contact or mating displays and it grazes for its food?

Fish I can understand.....to some extent. Colour is used for mating displays as we see in the cuckoo wrasse *Labrus mixtus* or corkwing wrasse *Crenilabrus melops*.

It is used for disguise as with longspined scorpionfish *Taurulus bubalis* and most of the flatfish, and to some extent with the John Dory *Zeus faber* – when seen head on. John Dorys are however rather visible sideways on with that big dark spot – what's that for?

And why does a shy little fish like the leopard spotted goby *Thorogobius ephippiatus*, that likes to hide away under overhangs, need to have those rather eye-catching dark spots?

When I look at anemones I am constantly amazed and rewarded by their flower like colours. Jewel anemones *Corynactis viridis* come in such a wonderful variety, not just single colours but some have several different colours within the one anemone.

Firstly why should they need colour at all and secondly why such a variety of colour? Their Pacific cousins *Corynactis californica* only come in pink!

The solitary hard corals exhibit the same strange difference with Devonshire cup corals *Caryophyllia smithii* coming in a multitude of colours but sunset *Leptopsammia pruvoti* and scarlet and gold *Balanophyllia regia* only exhibit their own one single colour form.

Moving on to other animal turf creatures, hydroids, sponges and squirts, the colour puzzle continues. Hydroids seem to me to be mainly fawns and pale yellows whilst sponges and squirts are very much more colourful. But do they really need their colour? The normally grey *Pachymatisma johnstonia* exists perfectly well in caves as a pure white specimen. And the easily missed *Hexadella racovitzai* looks just dull grey where it usually lives under overhangs and in shaded areas until you illuminate it when it exhibits its beautiful pink colour. So what is the

purpose of the colours in sponges? And why are some of them coloured all through and others only on the surface?

Taking a brief look at nudibranchs it would seem that like bees and wasps their colour is a type of defence – don't eat me I taste nasty or I sting. Fine, until you look at the all white ones. Where is their defence?

Geographical place seems also to have some role in colour. Pink sea fans *Eunicella verrucosa* are genuinely pink in Dorset and mostly in Devon – just a few pure white ones occur in Devon. However there is a higher proportion of white ones the further west you go and in the Isles of Scilly they are significantly more common. In contrast the white form of dead men's fingers *Alcyonium digitatum* is the norm in the south of the country but go up to St Abbs in Scotland and the yellow version is overwhelming. Why should where something grows dictate the colour form?

So I ask myself on my dives why does the blue rayed limpet have those lovely blue markings; why is a painted top shell such a pretty colour whereas the grey topshell has to make do with just that – grey. And why do some sponges and squirts function perfectly well as white or translucent whereas others are pink, yellow or even blue?

Answers on a postcard please!

Northern Irelands Hidden Marine Landscape

Joe Breen

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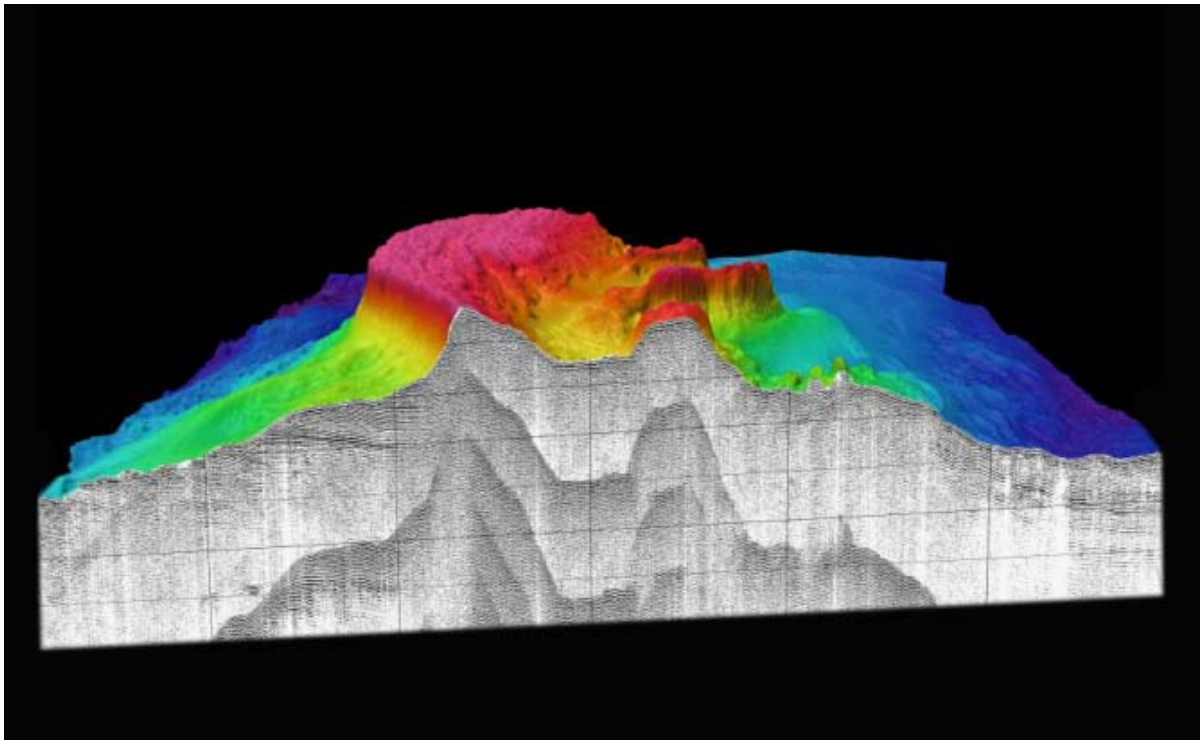


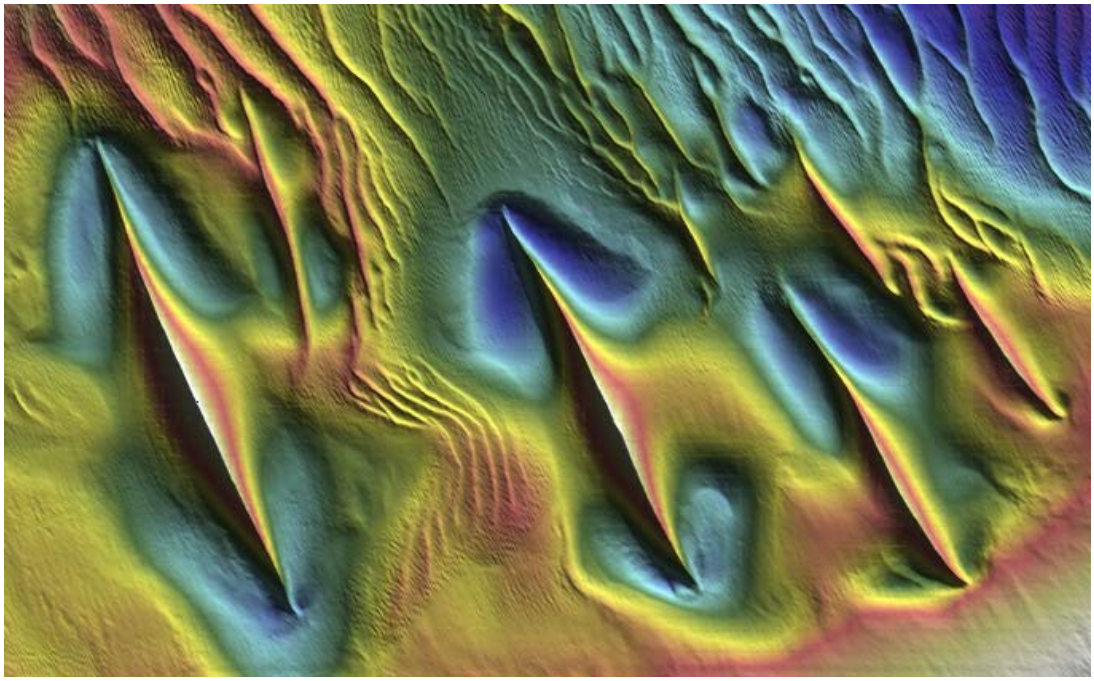
The geology of the north coast is very varied representing some 600 million years of the earths history. The oldest rocks are found east of Fair Head where the Dalradian metamorphic rocks represent sediments accumulating in a near-shore environment off the coast of North America (Laurentia). These were distorted, altered and even fully rotated through heat and pressure when the former Iapetus Ocean was subducted as elements of what is now Europe collided with Laurentia.

Sub-tropical conditions and major river delta complexes produced luxuriant growth of giant tree ferns during the Carboniferous period. Layers of vegetation were laid down and buried under great thicknesses of river borne sediment resulting in the coal and sandstone series of the Ballycastle Coalfield. Warm conditions prevailed during the Jurassic and Cretaceous periods (200 – 65 millions years ago) with progressive deepening of the marine environment. The resultant fossil rich Jurassic mudstones can be seen at White Park Bay and at the geologically famous Portrush 'rock' beside the Northern Ireland Environment Agencies Coastal Zone. Cretaceous limestones can be seen through much of the north coast as striking white cliffs, formed from enormous quantities of coccolith plates. The limestone also holds bands of flint, of considerable importance to the earliest human settlers in this part of the world. Marine conditions came to an end towards the end of the Cretaceous period when uplift led to erosion and partial dissolution of the limestone. There was a dramatic change in conditions with the onset of the Palaeogene period some 60 million years ago. The opening up of the North Atlantic combined with a volcanic 'hotspot' generated the conditions for successive eruptions of basalt lavas forming the Antrim Plateau. Early stage explosive eruptions produced a notable volcanic centre at Carrickarede.

This period also saw the formation of the world famous Giants Causeway (through slow cooling of ponded lavas) while masses of magma intruded into older rocks has resulted in the dramatic landforms seen at Fair Head and Ramore Head. Post basaltic faulting has produced the coast we see today

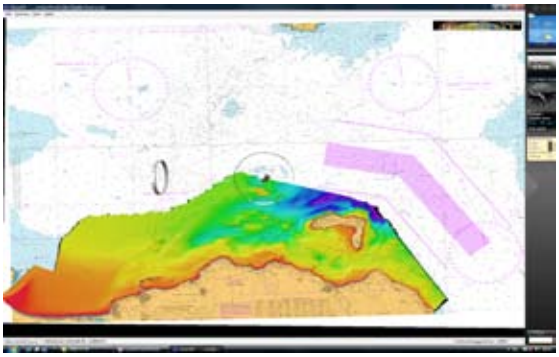
with rocks of different ages being present at or near sea-level. Faults and jointing within the chalk and basalt especially have been exploited by sea action resulting in a diverse range of caves and other coastal landforms.

However, as a direct result of a significant seabed mapping project known as JIBS (Joint Irish Bathymetric Survey) completed in 2008, we can see that the surface geology and landscape are just as dramatic below the surface. The JIBS use of hi-resolution multibeam sonar has revealed massive submerged cliff and reef features, standing sandwaves 18m high. Several drowned shore levels at 32, 48 and 100m are clearly evident as well as a drowned lagoon feature sitting on a ledge 45m deep on top of a cliff which falls away nearly vertical to 225m.



NIEA and Academic Institutions have started to overlay the bathymetric layer with other existing datasets in a bid to produce a highly detailed habitat map. The submerged landscape visualisations produced by 3 dimensional graphic software has raised issues such as the possibility of extending Areas of Outstanding Natural Beauty into the marine environment.

The purpose of this paper is to show you tantalising glimpses of Northern Irelands dramatic underwater landscape as well as a brief description of the technology used to explore it.



You can find out more about the JIBS project at the MCA website

http://www.mcga.gov.uk/c4mca/mcga07-home/shipsandcargoes/mcga-shipsregsandguidance/mcga-dqs-hmp-hydrography/mcga-nav-jibs.htm

Freely download the data at

https://jetstream.gsi.ie/jibs/index.html

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