

Dr Abigail McQuatters-Gollop

7 Lipson Vale
Plymouth
PL4 7HE UK

Tel: +44 (0)7732 665965
Abigail.mcquatters-gollop@plymouth.ac.uk
www.planktonpolicy.org

RESEARCH INTERESTS:

I am a marine conservation ecologist and lecturer in marine conservation whose teaching and research focus on the generation of national and international impact through the integration of scientific results into the policy process. My key areas of interest are the separation of climate responses in the plankton from those due to anthropogenic disturbances, ecosystem responses to the combined effects of policy measures and climate change, and the linking of ecological changes to manageable human pressures. I actively create impact through science-policy knowledge exchange, working closely with policy makers at the UK, European and international levels, to deliver policy informed by sound scientific evidence. I am leading the UK's and OSPAR's implementations of the Marine Strategy Framework Directive for pelagic habitats, which includes the coordination, development and management towards operationalisation of pelagic indicators and environmental targets. This work is a direct response to UK and EU policy needs and is required by EU and UK decision makers to support marine management and conservation; I hold a NERC Fellowship to fund this impact work. I love teaching and I try to encourage my students to see why plankton are key ecosystem indicators, to develop an understanding of the practical policy process, and to understand how and why scientific research should be applied and used in a policy and conservation context.

PROFESSIONAL EXPERIENCE

Lecturer in Marine Conservation *Plymouth University* (2015-Present)

- Lecturer in Marine Conservation, with concentration on the Ocean Science and Marine Conservation degree
- Dissertation supervision
- NERC Knowledge Exchange Fellow: Interpreting and targeting NERC-funded research outputs to inform and influence marine policy
- Leadership of Marine Strategy Framework Directive implementation for pelagic habitats at the UK and OSPAR levels
- Delivery of scientific advice to UK and international policy-makers
- Generation and publication of policy-relevant research
- Member of Marine Science recruitment committee

Science and Policy Research Fellow *Sir Alister Hardy Foundation for Ocean Science* (2010-2015)

- NERC Knowledge Exchange Fellow: Interpreting and targeting NERC-funded research outputs to inform and influence marine policy
- Delivery of scientific advice to UK and international policy-makers
- Generation and publication of policy-relevant research
- The securement of policy-relevant research and contract funding, from UK, EU and international bodies
- Leadership of Marine Strategy Framework Directive implementation for pelagic habitats at the UK and OSPAR levels
- SAHFOS PI on EU and INTERREG projects
- Coordination of SAHFOS Knowledge Exchange activities, including leading development of SAHFOS Knowledge Exchange strategy and line management of KE team

Associate Lecturer *Plymouth University* (2007-2015)

- Design and delivery of lectures and practicals for 2nd and 3rd year undergraduates and MRes students
- Dissertation supervision

Post Doctoral Research Fellow *Sir Alister Hardy Foundation for Ocean Science* (2008-2010)

- Coordination of ICES Historical Plankton Digitization Project
- Coordination of an FP7 project proposal
- Provision of scientific advice to UK and international policy-makers
- Plankton analysis
- SAHFOS PI on EU FP7 KnowSeas

Post Doctoral Research Fellow *University of Plymouth* (2007-2008)

- Coordination of a successful FP7 project proposal
- Provision of scientific advice to UK and international policy-makers

Research Assistant *University of Plymouth* (2004-2007)

- Provision of research and coordination support to FP6 project (ELME)
- Leadership of individual research programme
- Website development and maintenance

GIS Technician and Consultant *C&C Solutions, Inc* (2001-2002)

- Assisted with and managed GIS projects using ArcInfo, ArcView, and ArcGIS
- GIS analysis, project management and organisation, client relations, map design, and database implementation skills were utilized daily

Long-term Teaching Assistant *Maritime and Science Technology Academy High School* (1999-2001)

- Provision of regularly scheduled long-term teaching assignments at a competitive marine-themed magnet school, including formulation of lesson plans and assessment of students

Lab and Teaching Assistant *University of Miami Rosenstiel School of Marine and Atmospheric Science (RSMAS)* (1997–2000)

- Provision of lab, teaching and field support to researchers and staff at the Marine Geology and Geophysics Stable Isotope Laboratory and Department of Marine Affairs and Policy

EDUCATION AND QUALIFICATIONS

Fellow of the Higher Education Academy (2017)

PhD Phytoplankton as indicators for eutrophication in Europe's regional seas. University of Plymouth (2004 - 2008)

MA (Hons) Marine Affairs and Policy and GIS. University of Miami Rosenstiel School of Marine and Atmospheric Science (RSMAS) (2000 - 2001). Dissertation title "Stiltsville: Private ownership in a national park"

BA (Hons) Marine Affairs and Policy (major), Chemistry (minor), Geography and GIS (minor). University of Miami (1996 - 2000). Dissertation title "Anaerobic Digestion in the Florida manatee *Trichechus manatus latirostris*"

EXTERNAL FUNDING

- 2018 • **£3,000** Defra: Convening formulation of UK pelagic habitats monitoring options.
- 2017 • **£70,000** NERC: Knowledge Exchange Fellowship: Plankton science for supporting the implementation of marine ecosystem-based management and conservation.
• **£15,000** Defra: Chairing of UK plankton expert group for Marine Strategy Framework Directive.
• **£8,000** Japan Society for the Promotion of Science Invited Fellowship: Identifying and overcoming challenges to integrating marine scientific research into the Japanese policy process
- 2016 • **£2,400** Defra: Assessment of UK plankton for Marine Strategy Framework Directive.
• **£2,500** Plymouth University: Are Plymouth Sound phytoplankton in Good Environmental Status? Towards the assessment of biodiversity in a human-impacted conservation area.
- 2015 • **€146,000** EMFF: Applying an ecosystem approach to (sub) regional habitat assessments (EcApRHA).
• **£2000** NERC: Anniversary Ambassador.
- 2013 • **€76,000** INTERREG: Promoting effective governance of the Channel ecosystem (PEGASEAS).
• **£110,269** NERC: Knowledge Exchange Fellowship: Interpreting and targeting NERC-funded research outputs to inform and influence marine policy.
• **£8,000** Defra: MSFD Pelagic Habitats Indicator and Target Research and Development.
• **£10,225** Defra: MSFD Pelagic Habitats Expert Team leadership for UK and OSPAR. Contract reviewed and extended 6-monthly.
• **£10,000** EMODNET Biological Traits pilot project: Plankton Biological Traits.
- 2012 • **€100,000** EU European Marine Observation Data NETWORK (EMODNET) Biology: Provision of CPR data products and scientific advice on data application for implementation of the Marine Strategy Framework Directive (MSFD).
• **£9,710** Defra: MSFD Pelagic Habitats Team Leadership for UK and OSPAR.
• **£5,220** Defra: R&D project to operationalise MSFD indicators and targets.
- 2011 • **£8,993.19** EMODNET Biology: Provision of CPR data products and maps.
• **£19,736** National Marine Biological and Analytical Quality Control Scheme (NMBACQ): Employment of the technical secretariat at SAHFOS. Contract renewed annually.
- 2010 • **£116,610** INTERREG: Our shared sea: Mechanisms of ecosystem change in the Western Channel (Marinexus): Towing of CPR route, sample analysis, research and data interpretation.
- 2009 • **£17,400** JNCC: A marine assessment and monitoring framework for application in UKMMAS and OSPAR for phytoplankton and zooplankton
- 2008 • **€133,774** FP7 Knowledge Based Sustainable Management for Europe's Seas (KnowSeas): Development and management of operational database, coordination of social media, science-policy research.
• **£3,014** FAO: Preparation of concise overview of harmful algal blooms & fishery product safety.
• **£1,800** Defra: Contribution to report highlighting UK marine biodiversity hotspots.
- 2007 • **£700** Women in Science, Engineering and Technology (SET): Securement of a travel grant to present PhD results at an international scientific conference (ASLO)

KEY PUBLICATIONS

Capuzzo, E., Lynam, C.P., Stephens, D., Barry, J., Forster, R.M., Greenwood, N., **McQuatters-Gollop, A.**, Silva, T., van Leeuwen, S. M., and Engelhard, G.H., (2017). New data reveal a decline in primary production in the North Sea with implications for zooplankton and fisheries. *Global Change Biology*, doi: **10.1111/gcb.13916**.

- McQuatters-Gollop, A.**, Johns, David G., Bresnan, E., Skinner, J., Rombouts, I., Stern, R.F., Aubert, A., Johansen, M., and Knights, A. (2017). From microscope to management: the critical value of plankton taxonomy to marine policy and biodiversity conservation. *Marine Policy*, **83**:1-10.
- McQuatters-Gollop, A.**, Edwards, M., Helouët, P., Johns, D.G., Owens, N.J.P., Raitsos, D.E., Schroeder, D., Skinner, J., and Stern, R.F., (2015). The Continuous Plankton Recorder survey: how can long-term phytoplankton datasets deliver Good Environmental Status? *Estuarine, Coastal and Shelf Science*, **162**:88-97.
- Elliott, M., Borja, Á., **McQuatters-Gollop, A.**, Mazik, K., Birchenough, S., Andersen, J.H., Painting, S., and Peck, M., (2015). Force majeure: will climate change affect our ability to attain Good Environmental Status for marine biodiversity? *Marine Pollution Bulletin*, **95**:7-27.
- Beaugrand, G., **McQuatters-Gollop, A.**, Edwards, M. and Goberville, E., (2013). Long-term responses of North Atlantic calcifying plankton to climate change. *Nature Climate Change*, **3**: 263-267.
- McQuatters-Gollop, A.** (2012). Challenges for implementing the Marine Strategy Framework Directive in a climate of macroecological change. *Philosophical Transactions of the Royal Society*, **370**: 5636-5655.
- McQuatters-Gollop, A.**, Reid, P.C., Edwards, M., Burkill, P., Castellani, C., Batten, S., Gieskes, W., Beare, D., Bidigare, R., Head, E., Johnson, R., Kahru, M., Koslow, J. and Pena, M. (2011). Is there a decline in marine phytoplankton? *Nature* **472**:E6-E7.
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AWARDS AND ESTEEM

- NERC Knowledge Exchange Fellowship** Plankton science for supporting the implementation of marine ecosystem-based management and conservation (2017)
- Japan Society for the Promotion of Science Invited Fellowship** To engage local policy makers with ocean acidification research (2017)
- Michael Colebrook Memorial Award** For outstanding external representation of SAHFOS and promotion of the CPR survey to stakeholders and policy makers (2015)
- NERC Anniversary Ambassador** (2015)
- NERC Knowledge Exchange Fellowship** Interpreting and targeting NERC-funded research outputs to inform and influence marine policy (2013)
- Seavision UK My Maritime World Competition winner** For inspiring future marine scientists ('From plankton to policy') (2013)
- Challenger Society Honorary Fellowship** For achievement and promise in marine biology (2012)
- Elsevier Top Cited Author Award** For paper entitled 'How well do ecosystem indicators communicate the effects of anthropogenic eutrophication?' (2012)
- Royal Society Science-Policy Pairing Scheme** Paired with UK DECC for one year mentorship (2011-2012)
- SAHFOS Contribution Award Recipient** (2009, 2011)
- Rho Rho Rho Marine Science Honours Society** Member (1997-1999), Elected vice president (1999-2000)
- University of Miami RSMAS Merit Fellowship** Full tuition scholarship **\$45,000** (2000-2001)
- National Merit Scholar** Tuition scholarship **\$16,000** (1996 – 2000)
- University of Miami Merit Scholar** Half tuition scholarship **\$60,000** (1996-2000)
- University of Miami Dean's List** Eligibility: Grade Point Average > 3.50 (1996, 1997, 2000)
- University of Miami Provost's Honour Roll** Eligibility: Grade Point Average > 3.75 (1998)
- University of Miami Honors Students' Association** Member (1996 -2000)
- Phi Kappa Phi Honour Society** America's most selective honours society, Eligibility: Grade Point Average in top 7.5% of my class (1999-2000)
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MEMBERSHIP/LEADERSHIP

- Plankton and Policy Research Group** PI (2015 – present)
- British Ecological Society Brexit Policy Working Group** (2017 – present)
- Defra Network of Evidence Experts** (2017 – present)
- Fellow of the Higher Education Academy** (2016 – present)
- Defra/HBDSEG Marine Strategy Framework Directive Implementation Group** Chair. Leading the UK's implementation of the Marine Strategy Framework Directive for pelagic habitats (2011 – present)
- OSPAR's Intersessional Correspondence Group on Coordinated Biodiversity Assessment and Monitoring Implementation Group** Chair. Leading Europe's implementation of the Marine Strategy Framework Directive for pelagic habitats (2012 – present)
- Challenger Society Marine Science and Policy Special Interest Group** Co-founder and co-chair. (2015 – present)
- British Ecological Society** Member (2016 – present)
- British Phycological Society** Member (2016 – present)
- Marine Biological Association** Member (2015 – present)
- ICES Working Group on Biodiversity Science** Member (2014 – present)
- Celtic Seas Partnership Food Web Task Group** Member (2014 – present)
- Challenger Society for Marine Science** Elected Council member- communications portfolio (2012 – 2016)

SCOR 137 Working Group on Global Coastal Phytoplankton Time-series (2010 – present)
HBDEG Healthy and Biologically Diverse Seas Evidence Group. Pelagic lead. (2009 – present)
Defra Marine Ecosystem Health Working Group (2010 – present)
Centre for Marine Conservation and Policy Research, University of Plymouth PMSP member (2010-present)
Project Advisor - INTERREG ISECA (Information System on the Eutrophication of our Coastal Areas) (2012 – 2014)
University of Miami Marine Mammal Stranding Rescue Team (1996 – 2000)

KEYNOTE ENGAGEMENTS

Keynote address: “From evidence to policy: developing biodiversity indicators for marine conservation”, Commemorative Symposium for the 33rd International Prize for Biology: Marine biology opens a frontier for the future, University of Tsukuba, Tsukuba, Japan.

Keynote address: “Brexit and the marine environment – a biodiversity perspective”, British Ecological Society-Marine Biological Association The UK Marine Environment After Brexit, London, UK, 2017.

Keynote address: “Delivering good environmental status: an ecosystem approach”, Australian Marine Sciences Association, Geelong, Australia, 2015.

Keynote address: “Delivering the ecosystem approach – a European perspective”, Marine Strategy Framework Directive (EU) and the Great Barrier Reef Long-Term Sustainability Plan (GBRWHA) workshop, hosted by the Great Barrier Reef Marine Park Authority and Australian Institute for Marine Science, Townsville, Australia, 2015.

Keynote address: “Pathways towards effective Channel governance”, Pathways towards effective Channel governance launch event, House of Commons, UK Parliament, Westminster, London, 2014.

Keynote address: “Challenges for managing our seas in a climate of macroecological change”. P/ICES Oceans of Change, Majorca, Spain, 2012.

Public debate: “Large-scale trends in ocean phytoplankton”. McQuatters-Gollop, A., Worm, B. and Wernand, M. Plankton 2011: Biodiversity and Global Change, Plymouth, UK, 2011.

Keynote address: “Is there a decline in marine phytoplankton?”, Plankton 2011: Biodiversity and Global Change, Plymouth, UK, 2011.

Keynote address: “Challenges for managing our seas in a climate of macroecological change: messages from the plankton”, Prospectus for UK Marine Science for the Next 20 Years: A Joint Project by The Challenger Society for Marine Science and the UK Scientific Committee on Oceanic Research, Royal Society, London, UK, 2011.

Keynote presentation and panel discussion: “Implications of large-scale ecological change for managing UK seas”, How can we manage our seas in the real world? Organized by Plymouth Marine Sciences Partnership in collaboration with the Marine Management Organisation, Plymouth, UK, 2011.

PROFESSIONAL ACTIVITIES

Invited policy events:

International policy decisions based on world-leading evidence, House of Commons, UK Parliament, 2017.

Convener:

Conference conceiver, developer, and co-convener:

The Environment after Brexit, British Ecological Society, UK (2017)
Challenger Society for Marine Science Conference (2012, 2014)
Prospectus for UK Marine Sustained Observations, The Royal Society, UK (2013)

Theme developer and convener:

“From science to evidence – innovative uses of biodiversity indicators for effective marine policy and conservation”, International Marine Conservation Congress, Kuching, Malaysia (2018)
“What is a good pelagic habitat?”, ICES Annual Science Conference, Riga, Latvia (2016)
“Marine science for society”, Challenger Conference for Marine Science, Liverpool, UK (2016)
“Challenges and tools for managing marine and coastal resources”, Challenger Conference for Marine Science, Plymouth, UK. (2014)
“Challenges and tools for managing marine and coastal resources”, Challenger Conference for Marine Science: Ocean Challenges in the 21st Century, Norwich, UK (2012)

Session chair:

Promoting Effective Governance of the Channel Ecosystem, Caen, France. (2014)
Southwest Marine Ecosystems Conference 2014, Plymouth, UK (2014)
P/ICES Oceans of Change, Majorca, Spain (2012)

Editorial contributions:

Marine Biodiversity Records Editorial board (2017 – present)

Special Issue, Philosophical Transactions of the Royal Society Guest editor. Prospectus for UK Marine Sustained Observations (2014)

Panels and debates:

Interview panel:

NERC Innovation Grants (2017)

NERC KE Fellowships (2016)

Public debate: “Large-scale trends in ocean phytoplankton”. McQuatters-Gollop, A., Worm, B. and Wernand, M. Plankton 2011: Biodiversity and Global Change, Plymouth, UK (2011)

Discussion panel: “Where we need to be: what are the likely challenges?” McQuatters-Gollop, A., Spicer, J., Brownlee, C. and Barange, M. Plymouth Marine Science Partnership and the MMO: How can we manage our seas in the real world?” Plymouth, UK (2011)

Training:

- 2017
 - Impact training (NERC)
 - Internal examiners training (Plymouth University)
- 2016
 - Outdoor first aid
- 2015
 - Challenge of Science Leadership (Barefoot Learning)
 - Innovation training (NERC)
- 2013
 - Climate Change in the Media (Talk Action)
 - Effective Supervision (Plymouth University)
- 2009
 - Line Management Training (Carol Carpenter Training)
- 2008
 - FP6 Sesame Statistics Summer School (Highland Statistics)
 - CPR plankton taxonomic analysis (SAHFOS)

Media engagements:

2014 – present • Curator of blog and website Plankton and Policy: <http://planktonpolicy.org/>

2012

- Invited guest blogger (*Plankton and Policy*) for *Research in Action*. University of Miami Rosenstiel School of Marine and Atmospheric Science.

- Research featured in *New Scientist* magazine
- Featured on ‘This is what a scientist looks like’ blog about breaking down science stereotypes

2011

- Interview by Louie Psihoyos (Director of *The Cove*) for upcoming documentary film

Additional skills:

Science-policy communication: Active participant in science-policy knowledge exchange at the UK, European, and international scales. I excel at translating science into a format useful to policy-makers and at guiding scientists to apply their research to the policy process. I run the blog and website Plankton and Policy, which is followed by ICES, OSPAR, DG MARE and MBARI <http://planktonpolicy.org/>

Proposal coordination/contribution: FP7 proposal coordination, contribution to NERC, INTERREG, H2020, NSF, etc, proposals.

Spatial analysis: Exceptional cartographic, GIS and geostatistical analysis skills using ArcGIS, ArcView, ArcInfo, R, and Surfer.

Taxonomy: Trained in phyto and zooplankton analysis.

PUBLICATIONS

The publication list is separated into four categories: Scientific papers in peer-reviewed journals (published), policy publications, scientific peer-reviewed journal publications in preparation or review, and conference presentations and posters. I have published 32 papers in international journals (with total Impact Factor, [IF] = 151.205), and multiple high impact policy publications. My work has been cited 1535 times, my h-index is 18 and my i10 index is 26.

APPENDIX 1: PEER-REVIEWED SCIENTIFIC PUBLICATIONS

- Bedford, J., Johns, D., Greenstreet, S., and **McQuatters-Gollop, A.** (2018). Plankton as prevailing conditions: a surveillance role for plankton indicators within the Marine Strategy Framework Directive. *Marine Policy*, doi: **10.1016/j.marpo.2017.12.021**. [IF]=2.610
- Addison, P.F.E., Collins, D.J., Trebilco, R., Howe, S., Bax, N., Hedge, P., Jones, G., Miloslavich, P., Roelfsema, C., Sams, M., Stuart-Smith, R.D., Scanes, P., von Baumgarten, P., and **McQuatters-Gollop, A.**, (2018). A new wave of marine evidence-based management: emerging challenges and solutions to transform monitoring, evaluating, and reporting. *ICES Journal of Marine Science*, doi: **10.1093/icesjms/fsx216** [IF]=2.949
- Capuzzo, E., Lynam, C.P., Stephens, D., Barry, J., Forster, R.M., Greenwood, N., **McQuatters-Gollop, A.**, Silva, T., van Leeuwen, S. M., and Engelhard, G.H., (2018). New data reveal a decline in primary production in the North Sea with implications for zooplankton and fisheries. *Global Change Biology*, **24**: e352-e364. [IF]=8.44
- Batten, S.D., Raitsos-Exarchopoulos, D., Danielson, S., Hopcroft, R., Coyle, K. and **McQuatters-Gollop, A.**, (2018). Interannual variability in lower trophic levels on the Alaskan Shelf. *Progress in Oceanography*, **147**:58-68 doi:10.1016/j.dsr.2017.04.023. [IF]=3.986
- Dickey-Collas, M., **McQuatters-Gollop, A.**, Bresnan, E., Kraberg, A.C., Manderson, J.P., Nash, R.D.M., Otto, S.A., Sell, A.F., Tweddle, J.F. and Trenkel, V.M., (2017). Pelagic habitat: exploring the concept of good environmental status. *ICES Journal of Marine Science*, **74**:2333-2341. [IF]=2.949
- McQuatters-Gollop, A.**, Johns, David G., Bresnan, E., Skinner, J., Rombouts, I., Stern, R.F., Aubert, A., Johansen, M., and Knights, A. (2017). From microscope to management: the critical value of plankton taxonomy to marine policy and biodiversity conservation. *Marine Policy*, **83**:1-10. [IF]=2.610
- Evariste, E., Claquin, P., Robin, J.-P., Auber, A., **McQuatters-Gollop, A.** and Dauvin, J.-C. (2016). The Channel Ecosystem, a cross-roads of anthropogenic pressures and scientific studies: lessons acquired from the European INTERREG IV projects (2009-2015). *Marine Policy*, **63**:158-165. [IF]=2.610
- McQuatters-Gollop, A.**, Edwards, M., Helaouët, P., Johns, D.G., Owens, N.J.P., Raitsos, D.E., Schroeder, D., Skinner, J., and Stern, R.F., (2015). The Continuous Plankton Recorder survey: how can long-term phytoplankton datasets deliver Good Environmental Status? *Estuarine, Coastal and Shelf Science*, **162**:88-97. [IF]=2.324
- Stern, R.F., Picard, K.T., Hamilton, K.M., Walne, A., Tarran, G., Mills, D., **McQuatters-Gollop, A.** and Edwards, M., (2015). Novel lineage patterns from an automated water sampler to probe marine microbial biodiversity with Ships of Opportunity. *Progress in Oceanography*, **137**: 409-420. [IF]=3.986
- Elliott, M., Borja, Á., **McQuatters-Gollop, A.**, Mazik, K., Birchenough, S., Andersen, J.H., Painting, S., and Peck, M., (2015). Force majeure: will climate change affect our ability to attain Good Environmental Status for marine biodiversity? *Marine Pollution Bulletin*, **95**:7-27. [IF]=2.531
- Harrison, P.J., Zingone, A., Mickelson, M.J., Lehtinen, S., Ramaiah, N., Kraberg, A., Sung, J., **McQuatters-Gollop, A.** and Jakobsen, H.H., (2015). Cell volumes of marine phytoplankton from globally distributed coastal data sets. *Estuarine, Coastal and Shelf Science*, **162**:130-142. [IF]= 2.324
- Zingone, A., Harrison, P.J., Jakobsen, H.H., Kraberg, A., Lehtinen, S., **McQuatters-Gollop, A.**, O'Brien, T. and Sun, J., (2015). Increasing the quality, comparability and accessibility of phytoplankton species composition time-series data. *Estuarine, Coastal and Shelf Science*, **162**:151-160. [IF]= 2.324
- Evariste, E., Claquin, P., Robin, J.-P., Auber, A., **McQuatters-Gollop, A.**, Fletcher, S., Glegg, G., and Dauvin, J.-C., (2015) What did we learn from PEGASEAS Forum "Science and Governance of the Channel Marine Ecosystem"? *Marine Pollution Bulletin*, **93**:1-4. [IF]=2.531
- Gilbert, A.J., **McQuatters-Gollop, A.**, Langmead, O., Mee, L. and Vermaat, J., (2015). Visions for the North Sea: the societal dilemma of specifying good environmental status. *Ambio*, **44**:142-153. [IF]=2.295
- Raitsos, D.E., Pradhan, Y., Lavender, S.J., Hoteit, I., **McQuatters-Gollop, A.** and Reid, P.C., (2014). From silk to satellite; a half century of ocean colour changes in the Northeast Atlantic. *Global Change Biology*, **20**:2117-2123. [IF]=8.44
- Postlethwaite, C.F., Hickman, A.E., **McQuatters-Gollop, A.**, Bryden, H., and Woodworth, P., (2014). Preface: A prospectus for UK marine sustained observations. *Philosophical Transactions of the Royal Society*, **372**, 20130341. [IF] = 2.891
- Tett, P., Gowen, R., Painting, S., Elliott, M., Foster, R., Mills, D., Bresnan, E., Capuzzo, E., Fernandes, T., Foden, J., Geider, R., Gilpin, L., Huxham, M., **McQuatters-Gollop, A.**, Malcolm, S., Saux-Picart, S., Platt, T., Racault, M.-F., Sathyendranath, S., Molen, J.v.d. and Wilkinson, M., (2013). A framework for understanding marine ecosystem health. *Marine Ecology Progress Series*, **494**: 1-27. [IF] =2.546

- Jessopp, M.J., Cronin, M., Doyle, T.K., Wilson, M., **McQuatters-Gollop, A.**, Newton, S. and Phillips, R.A., (2013). Transatlantic migration by post-breeding puffins: a strategy to exploit a temporarily abundant food resource? *Marine Biology*, **160**:2755-2762. [IF] = 2.468
- Beare, D., **McQuatters-Gollop, A.**, Hall-Spencer, J., van der Hammen, T., Machiels, M. and Teoh, S.J., (2013). Long-term trends in calcifying plankton and pH in the North Sea. *PlosOne*, **8**: e61175. [IF] = 3.730
- Rombouts, I., Beaugrand, G., Fizzala, X., Gaill, F., Greenstreet, S.P.R., Lamare, S., Le Loc'h, F., **McQuatters-Gollop, A.**, Mialet, B., Niquil, N., Percelay, J., Renaud, F., Rossberg, A.G. and Féral, J.P., (2013). Food web indicators under the Marine Strategy Framework Directive: from complexity to simplicity? *Ecological Indicators*, **29**: 246–254. [IF] = 2.890
- Beaugrand, G., **McQuatters-Gollop, A.**, Edwards, M. and Goberville, E., (2013). Long-term responses of North Atlantic calcifying plankton to climate change. *Nature Climate Change*, **3**: 263-267. [IF] = 14.472
- McQuatters-Gollop, A.** (2012). Challenges for implementing the Marine Strategy Framework Directive in a climate of macroecological change. *Philosophical Transactions of the Royal Society*, **370**: 5636-5655. [IF] = 2.891
- McQuatters-Gollop, A.**, Reid, P.C., Edwards, M., Burkill, P., Castellani, C., Batten, S., Gieskes, W., Beare, D., Bidigare, R., Head, E., Johnson, R., Kahru, M., Koslow, J. and Pena, M., (2011). Is there a decline in marine phytoplankton? *Nature* **472**:E6-E7. [IF] = 38.597
- McQuatters-Gollop, A.** and Vermaat, J.E. (2011). Covariance among North Sea ecosystem state indicators during the past 50 years - contrasts between coastal and open waters. *Journal of Sea Research* **65**:294-292. [IF] = 1.829
- Raitsos, D.E., Lavender, S.J., Maravelias, C.D., Haralabous, J., **McQuatters-Gollop, A.**, Edwards, M., and Reid, P.C., (2011). Macroscale factors affecting diatom abundance: a synergistic use of Continuous Plankton Recorder and satellite remote sensing data. *International Journal of Remote Sensing*, **32**:2081-2094 [IF] = 1.138
- Tirado, M.C., Clarke, R., Jaykus, L.A., **McQuatters-Gollop, A.**, and Frank, J.M., (2010). Climate change and food safety: A review. *Food Research International*, **43**: 1745-1765. [IF] = 3.005
- McQuatters-Gollop, A.**, Gilbert, A.J., Mee, L.D., Vermaat, J.E., Artioli, Y., Humborg, C. and Wulff, F., (2009). How well do ecosystem indicators communicate the effects of anthropogenic eutrophication? *Estuarine, Coastal and Shelf Science*, **82**:583–596. [IF] = 2.324
- Langmead, O., **McQuatters-Gollop, A.**, Mee, L.D., Friedrich, J., Gilbert, A.J., Gomoiu, M.-T., Jackson, E.L., Knudsen, S., Minicheva, G., and Todorova, V., (2009). Recovery or decline of the Northwestern Black Sea: A societal choice revealed by socio-ecological modelling. *Ecological Modelling*, **220**: 2927-2939. [IF] = 2.069
- Henson, S. A., Raitsos, D.E., Dunne, J.P. and **McQuatters-Gollop, A.**, (2009). Decadal variability in biogeochemical models: Comparison with a 50-year ocean colour dataset, *Geophysical Research Letters*, **36**:L21601. [IF] = 3.982
- McQuatters-Gollop, A.**, Mee, L.D., Raitsos, D.E. and Shapiro, G., (2008). Non-linearities, regime shifts and recovery: The recent influence of climate on Black Sea chlorophyll. *Journal of Marine Systems*, **74**:649-658. [IF] = 2.655
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APPENDIX 2: POLICY PUBLICATIONS

- McQuatters-Gollop, A.**, Artigas, F., Aubert, A., Budria, A., Johansen, M., Ostle, C. and Rombouts, I., (2017). PH1: Changes in phytoplankton and zooplankton communities. In: OSPAR (Editor), *OSPAR Intermediate Assessment 2017*. OSPAR, London, UK, pp. 2.
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- McQuatters-Gollop, A.**, (2008). Climate exacerbates eutrophication in the North Sea. *Marbef Newsletter*, **8**: 17-18.
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- Langmead, O., **A. McQuatters-Gollop** and L.D. Mee (Eds.). (2007). European Lifestyles and Marine Ecosystems: Exploring challenges for managing Europe's seas. 43pp. University of Plymouth Marine Institute, Plymouth, UK.

APPENDIX 3: SCIENTIFIC PUBLICATIONS IN REVIEW/PREP

- Gowen, R.J., Tett, P., Scherer, C., Allen, M., Atkinson, A., Baptie, M., Best, M., Bresnan, E., Cook, K., Forster, R., **McQuatters-Gollop, A.**, Painting, S., Castellani, C., Mills, D.K., and van Leeuwen, S., (in prep) Variability in shelf seas plankton communities: can change be linked to anthropogenic pressure? **in prep.**
- McQuatters-Gollop, A.**, Atkinson, A., Bedford, J., Best, M., Bresnan, E., Cook, K., Devlin, M., Gowen, R., Johns, D.G., Ostle, C., Scherer, C. and Tett, P., (in prep). Scaling up the use of the Plankton Index as a policy indicator for regional assessment of pelagic habitats *ICES Journal of Marine Science*, **in prep.**
- Siddons, B., Glegg, G. and **McQuatters-Gollop, A.**, (in prep). Inter-regional coherence: can Northeast Atlantic pelagic indicators be applied to the Arctic? *ICES Journal of Marine Science*, **in prep.**

APPENDIX 4: CONFERENCE PRESENTATIONS/POSTERS

Keynote addresses:

2017

From evidence to policy: developing biodiversity indicators for marine conservation, Commemorative Symposium for the 33rd International Prize for Biology - Marine biology opens a frontier for the future, University of Tsukuba, Tsukuba, Japan.

Brexit and the marine environment - key priorities: A biodiversity perspective, British Ecological Society: The Marine Environment after Brexit, London, UK.

2015

Delivering good environmental status: an ecosystem approach, Australian Marine Sciences Association, Geelong, Australia.

Delivering the ecosystem approach – a European perspective, Marine Strategy Framework Directive (EU) and the Great Barrier Reef Long-Term Sustainability Plan (GBRWHA) workshop, hosted by the Great Barrier Reef Marine Park Authority and Australian Institute for Marine Science, Townsville, Australia.

2014

Pathways towards effective Channel governance, Pathways towards effective Channel governance launch event, House of Commons, UK Parliament, Westminster, London.

The role of plankton time-series in managing our seas in a climate of macroecological change, PICES 2014 Annual Meeting: Toward a better understanding of the North Pacific: Reflecting on the past and steering for the future, Yeosu, Korea.

Using science to inform marine policy: a case study of marine ecosystem monitoring in the UK, Towards the better collaboration between scientists and policy makers, University of Tokyo, Japan.

2012

Challenges for managing our seas in a climate of macroecological change. P/ICES Oceans of Change, Majorca, Spain.

2011

Is there a decline in marine phytoplankton?, Plankton 2011: Biodiversity and Global Change, Plymouth, UK.

Challenges for managing our seas in a climate of macroecological change: messages from the plankton, Prospectus for UK Marine Science for the Next 20 Years: A Joint Project by The Challenger Society for Marine Science and the UK Scientific Committee on Oceanic Research, Royal Society, London, UK.

Implications of large-scale ecological change for managing UK seas, How can we manage our seas in the real world? Organized by Plymouth Marine Sciences Partnership in collaboration with the Marine Management Organisation, Plymouth, UK.

Invited presentations:

2017

From evidence to policy: developing biodiversity indicators for marine conservation, National Institute of Oceanography Seminar Series, Goa, India.

Large scale plankton shifts in the North Atlantic in relation to climate change, Cross-disciplinary workshop on drivers of decline in Atlantic puffins and other species with related feeding ecology in the North Atlantic, Reykjavik, Iceland.

Spatio-temporal changes in plankton communities, and their role as policy indicators, Assessing the Effects of Ocean Acidification on East Asian Ecosystems, Shimoda, Japan.

From evidence to policy: developing biodiversity indicators for marine conservation, University of the Ryukyus Tropical Biosphere Research Center Sasei Research Facility, Sesoko, Okinawa, Japan.

From evidence to policy: developing biodiversity indicators for marine conservation, University of Tsukuba Shimoda Marine Research Centre, Shimoda, Japan.

Plankton in policy: How do the smallest creatures help us protect our seas?, Hong Kong University Biological Sciences Seminar Series, Hong Kong University, Hong Kong.

2016

From evidence to policy: developing biodiversity indicators for marine policy, Japan Agency for Marine-Earth Science and Technology (JAMSTEC) seminar series, JAMSTEC, Yokohama, Japan.

From data to decisions: creating impact through policy, Plymouth University Research Impact Conference, Plymouth, University, Plymouth, UK.

From evidence to policy: developing biodiversity indicators for the MSFD, PML Invited Speakers Seminar Series, Plymouth, UK.

From evidence to policy: developing biodiversity indicators for the MSFD, Interdisciplinary Centre for Conservation Science, Oxford University, Oxford, UK.

From evidence to policy: developing biodiversity indicators for the MSFD, UNEP World Conservation Monitoring Centre, Cambridge, UK.

2015

Challenges for developing policy indicators in a climate of macroecological change, University of Queensland, Australia.

Challenges for developing policy indicators in a climate of macroecological change, Central Queensland University, Australia.

From data to decisions, using NERC science in policy, NERC Knowledge Exchange Network Conference, Leicester, UK.

The benefits of crossing the science-policy interface, NERC Fellows Conference, Birmingham, UK, 2015.

Update on SW plankton, South West Marine Ecosystems, Plymouth, UK.

2014

The role of plankton time-series in managing our seas in a climate of macroecological change, Swire Institute for Marine Science Hong Kong University, Hong Kong.

Understanding large-scale change: Insights from the Continuous Plankton Recorder time-series, Japan Agency for Marine-Earth Science and Technology (JAMSTEC) seminar series, JAMSTEC, Yokohama, Japan.

Understanding large-scale change: Insights from the Continuous Plankton Recorder time-series, Fisheries Research Agency of Japan seminar series, Fisheries Research Agency, Yokohama, Japan.

Understanding planktonic systems: Update & links to MSFD, Coastal Futures, London, UK.

Challenges for managing our seas in a climate of macroecological change, Marine Biology and Ecology Invited Seminar Series, Plymouth University, UK.

2013

Phytoplankton response to global change, Coastal and Estuarine Research Foundation Biennial Conference: Toward Resilient Coasts & Estuaries, Science for Sustainable Solutions, San Diego, CA, USA.

Informing policy in the SW: the Marine Strategy Framework Directive (MSFD), Natural England Marine Conference, Plymouth, UK.

Challenges for implementing the MSFD in a climate of macroecological change, Plymouth University Marine and Coastal Policy Research Group Invited Speakers Seminar Series, Plymouth, UK.

Global Patterns of Phytoplankton Dynamics in Coastal Ecosystems, Plymouth Celebrates SCOR, Plymouth, UK.

Informing policy in the SW: links to pelagic habitats in the Marine Strategy Framework Directive (MSFD), Southwest Marine Ecosystems, Plymouth, UK.

2012

Challenges for managing our seas in a climate of macroecological change, University of Sheffield Dept. of Animal and Plant Sciences Invited Speakers Seminar Series, Sheffield, UK.

Challenges for managing our seas in a climate of macroecological change, NOC Invited Speakers Seminar Series, Southampton, UK.

Challenges for managing our seas in a climate of macroecological change, PML Invited Speakers Seminar Series, Plymouth, UK.

Why is it so hard to set MSFD targets?, EU Marine Observation and Data Expert Group - 16th meeting, Brussels, Belgium.

2011

Plankton Response to Global Change, Oceans 2025: Science of the Blue Planet, London, UK.

Biological indicators across heterogenous datasets, EU Marine Observation and Data Expert Group - 10th meeting, Brussels, Belgium.

Oral presentations:

2017

Developing pelagic indicators for ecosystem-based management from multiple monitoring surveys ICES Annual Science Conference, Fort Lauderdale, FL, USA.

Collaboration is the key to success: developing pelagic habitat indicators by working across the science-policy interface, ICES Annual Science Conference, Fort Lauderdale, FL, USA.

2016

From evidence to policy: developing biodiversity indicators for the MSFD, Challenger Conference for Marine Science - Oceans and Climate, Liverpool, UK.

From evidence to policy: developing biodiversity indicators for the MSFD, ICES Annual Science Conference, Riga, Latvia.

Enhancing Student Learning and Participation Interactively through the use of Clickers in Science and Engineering, at VC's Teaching and Learning Conference, Plymouth University, Plymouth, UK.

2015

Challenges for developing pelagic indicators and setting meaningful targets in a climate of ecological change, ICES Annual Science Conference, Copenhagen.

2014

Challenges for developing policy indicators against a background of macroecological change, Promoting Effective Governance of the Channel Ecosystem, Caen, France.

Challenges for developing policy indicators in a climate of macroecological change, 2nd Marine and Coastal Policy Forum, Plymouth University, UK.

Informing policy in the Western Channel: links to pelagic habitats in the Marine Strategy Framework Directive (MSFD), Marinexus final conference, Plymouth, UK.

2013

Good Environmental Status and the plankton: combining disparate datasets to assess pelagic habitats at national and regional scales, ICES Annual Science Conference, Reykjavik, Iceland.

2012

Why is it so hard to set MSFD indicators and targets? Messages from the plankton, Challenger Conference for Marine Science: Ocean Challenges in the 1st Century, Norwich, UK.

Plankton response to global change: Is the SW UK representative?, Southwest Marine Ecosystems, Plymouth, UK.

Challenges for managing our seas in a climate of macroecological change, Marine Strategy 2012, Copenhagen, Denmark.

2010

Black Sea Phytoplankton, SCOR 137 - Global Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time-Series Observations Working Group Workshop, Hangzhou, China.

The Continuous Plankton Recorder, SCOR 137 - Global Patterns of Phytoplankton Dynamics in Coastal Ecosystems: Comparative Analysis of Time-Series Observations Working Group Workshop, Hangzhou, China.

2009

How well do ecosystem indicators communicate the effects of eutrophication?, ASLO Aquatic Sciences Conference, Nice, France.

How well do ecosystem indicators communicate the effects of eutrophication?, PMSP Symposium: Marine Science for a Changing World, Plymouth, UK.

Changes in the Northwest Atlantic phytoplankton community, GLOBEC 3rd Open Science Meeting, Victoria, Canada.

Non-linear effects of climate on Black Sea phytoplankton phenology, GLOBEC 3rd Open Science Meeting Victoria, Canada.

2008

Climate exacerbates eutrophication in North Sea, ASLO Ocean Sciences Conference, Orlando, FL, USA.

2007

Climate exacerbates eutrophication in North Sea, Marine Institute Conference - Understanding Marine Systems, Plymouth, UK.

2006

A long-term chlorophyll dataset reveals regime shift in North Sea phytoplankton biomass unconnected to increasing nutrient levels, Marine Biological Association Postgraduate Workshop, Dublin, Ireland.

A long-term chlorophyll dataset reveals regime shift in North Sea phytoplankton biomass unconnected to increasing nutrient levels, Biological Sciences Synergy Conference, University of Plymouth, UK.

Posters:

What value does taxonomy have in modern science and policy?, Promoting Effective Governance of the Channel Ecosystem, Caen, France, 2014.

Why is it so hard to set MSFD indicators and targets? Messages from the plankton, Challenger Conference for Marine Science: Ocean Challenges in the 1st Century, Norwich, UK, 2012.

How well do ecosystem indicators communicate the effects of anthropogenic eutrophication?, How can we manage our seas in the real world? Organized by Plymouth Marine Sciences Partnership in collaboration with the Marine Management Organisation, Plymouth, UK, 2011.

How well do ecosystem indicators communicate the effects of anthropogenic eutrophication?, Plankton 2011: Biodiversity and Global Change, Plymouth, UK, 2011.

How well do ecosystem indicators communicate the effects of anthropogenic eutrophication?, Oceans 2025 Science meeting, Plymouth, UK, 2010.

Climate exacerbates eutrophication in North Sea, Change in Aquatic Ecosystems Conference, Plymouth, UK, 2007.

Climate exacerbates eutrophication in North Sea, FP6 European Lifestyles and Marine Ecosystems (ELME) Results Workshop, European Commission, Committee of the Regions, Brussels, Belgium, 2007.

Climate exacerbates eutrophication in North Sea, Parliamentary Select Committee Inquiry into Science and Technology launch event, Marine Biological Association of the UK, Plymouth, UK, 2007.

Climate exacerbates eutrophication in North Sea, Vice Chancellor's Research and Innovation Conference, University of Plymouth, UK, 2007.

Public lectures:

Plankton in parliament: How do the smallest creatures help us protect our seas?, Public lecture at Capturing Our Coast Wine and Science Night, Plymouth, UK, 2016.

Plankton in parliament: How do the smallest creatures help us protect our seas?, Public lecture at National Science and Engineering Week, Plymouth, UK, 2014.