

# Dr Abigail McQuatters-Gollop

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## RESEARCH INTERESTS:

I am an interdisciplinary 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. I use natural and social science skills and expertise to enable the sustainable use of our marine and coastal environments through science. 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.

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## PROFESSIONAL EXPERIENCE

### **Associate Professor of Marine Conservation** *Plymouth University* (2015-Present)

- Lecturer in Marine Conservation, with concentration on the Ocean Science and Marine Conservation degree
- Defra Senior Policy Fellow - Marine
- 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

### **Company director** *Ecosystem Approaches Limited* (2019 – present)

- Environmental consultancy
- Spatial analysis
- Marine conservation and biodiversity advice
- Indicator development
- Systems thinking
- Science- policy communication
- Impact creation
- Social media communication

### **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 2<sup>nd</sup> and 3<sup>rd</sup> 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**

- 2020
- **£47,000** Defra Senior Policy Fellow – Marine
  - **£2,800** Defra: Developing and streamlining the Plankton Lifeform tool, analysis and interpretation system (PRADA)
- 2019
- **£61,000** Defra Senior Policy Fellow – Marine
  - **£5,000** Commonwealth Blue Charter – Indicator briefing paper
- 2018
- **£1,600** Medin: Streamlining and Standardising Pelagic Data Flow to Support the MSFD
  - **£3,000** Defra: Formulation of UK pelagic habitats monitoring options.
  - **£188,151** EMFF: Increasing Confidence in Evaluating GES for Regional Assessments of Pelagic Habitats (ICEGRAPH)
  - **£48,996** Defra: Increasing the Confidence in Determining GES for English Pelagic Habitats
- 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** EMODNET Biology: Provision of CPR data products and maps.  
 • **£19,736** National Marine Biological and Analytical Quality Control Scheme (NMBAQC): 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)

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## KEY PUBLICATIONS

- McQuatters-Gollop, A.**, Atkinson, A., Aubert, A., Bedford, J., Best, M., Bresnan, E., Cook, K., Devlin, M., Gowen, R., Johns, D.G., Machairopoulou, M., Mellor, A., Ostle, C., Scherer, C. and Tett, P., (2019). Plankton lifeforms as a biodiversity indicator for regional-scale assessment of pelagic habitats for policy. *Ecological Indicators*, **101**: 913-925.
- 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). A decline in primary production in the North Sea over 25 years, associated with reductions in zooplankton abundance and fish stock recruitment. *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., 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.
- 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

- Defra Senior Policy Fellow – Marine** (2019) To develop and apply a systems approach framework across Defra Marine.
- 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 for Ocean Science 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**

**Defra Senior Policy Fellow – Marine** (2019) To develop and apply a systems approach framework across Defra Marine.

**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)

**HBDSEG** Healthy and Biologically Diverse Seas Evidence Group. Pelagic lead. (2009 – present)

**Defra Marine Ecosystem Health Working Group** (2010 – present)

**Challenger Society Marine Science and Policy Special Interest Group** Co-founder and co-chair. (2015 –2018)

**British Ecological 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 – 2016)

**Challenger Society for Marine Science** Elected Council member- communications portfolio (2012 – 2016)

**SCOR 137** Working Group on Global Coastal Phytoplankton Time-series (2010 – 2015)

**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)

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#### **KEYNOTE ENGAGEMENTS**

**Keynote address:** "From evidence to policy: developing biodiversity indicators for marine conservation", Commemorative Symposium for the 33<sup>rd</sup> International Prize for Biology: Marine biology opens a frontier for the future, University of Tsukuba, Tsukuba, Japan, 2017.

**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:** "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, 2014.

**Keynote address:** "Understanding planktonic systems: Update & links to MSFD", Coastal Futures, London, UK, 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.

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#### **PROFESSIONAL ACTIVITIES**

##### **Invited policy appearances:**

Environment, Food, and Rural Affairs UK Fisheries Bill Inquiry, scientific witness. Palace of Westminster, UK Parliament (2018)

Environmental Audit Committee Sustainable Seas Inquiry, scientific witness. Portcullis House, UK Parliament (2018)  
The science of managing UK fisheries, invited speaker. Portcullis House, UK Parliament (2018)  
Research, impact and the UK Parliament, invited speaker. Parliamentary Office for Science and Technology (2018)  
International policy decisions based on world-leading evidence, invited case study. 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:**

“Applying and integrating marine biodiversity indicators and assessments to evaluate progress towards policy goals”, MSEAS-2020: Marine Social-Ecological Systems, Yokohama, Japan (2020)  
“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 KE Fellowships (2018)  
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:**

2019 • Social Science for Conservation (Human Nature)  
2018 • Science media training (NERC-British Science Association)  
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:**

2020 • “The Hunger Games for life in our warmer sea”, Western Morning News, 28 Jan 2020  
• “Towards equality in ecology”, Ecology for the Masses, 10 Feb 2020  
<https://ecologyforthemasses.com/2020/02/10/towards-equality-in-ecology-bes-edition/>  
• “Study shows six decades of change in plankton communities”, Science Magazine (web), 1 April 2020  
• “Study reveals climate impact on plankton”, The National (Scotland), 2 April 2020  
• “Plankton changes have impacted ecosystem around UK coastline, study suggests”, Press Association, 2 April 2020

- “Plankton hit by ‘huge changes’”, The Herald, 2 April 2020
- “Shift in ocean life discovered”, The Herald (Plymouth), 4 April 2020
- “We’re plankrupt”, The Sun, 6 April 2020
- “Huge changes to UK plankton population”, Fishing News UK, 7 May 2020
- “Channelling a Bloom”, NASA Earth Observatory, 25 June 2020

<https://earthobservatory.nasa.gov/images/146897/channeling-a-bloom>

- “Pictures from space bode well for life on Earth”, Western Morning News, 1 July 2020
- “NASA records large bloom of phytoplankton close to island”, Guernsey Press, 2 July 2020
- “Blooming good spring for algae”, The Times, 8 July 2020
- “Weather eye”, The Times, 8 July 2020

- 2019
- “Small boats may be left high and dry after Brexit”, Western Morning News, 22 Jan 2019
  - “Science research programme launched to inform Defra policy making”, WiredGov, 6 May 2019
  - “Defra takes ‘systems thinking approach’ to pressing environmental issues”, The Water Report, 6 May 2019
  - “Defra launches science research programme to inform policy-making”, AgriLand, 7 May 2019
  - Invited collaborator for Phillippe Cousteau’s Earth Echo expedition ‘What’s the Catch?’ as a plankton and policy expert, August 2019
    - Earth Echo Establish Our Fisheries: [https://www.youtube.com/watch?time\\_continue=14&v=7A43-tM0ezE&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=14&v=7A43-tM0ezE&feature=emb_logo)
    - Earth Echo STEM Career Close up: [https://www.youtube.com/watch?time\\_continue=1&v=UIQk7b9hxZY&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=1&v=UIQk7b9hxZY&feature=emb_logo)
  - “Focus on Brexit: Resigned but resolute”, Ecology for the Masses, 11 Dec 2019
- <https://ecologyforthemasses.com/2019/12/11/focus-on-brex-it-at-bes2019-resigned-but-resolute/>
- “Abigail McQuatters-Gollop: How will Brexit effect Europe’s oceans?”, Ecology for the Masses, 9 Dec 2019
- <https://ecologyforthemasses.com/2019/12/09/abigail-mcquatters-gollop-how-will-brex-it-affect-europes-oceans/>
- 2018
- “International collaboration is essential for good of our seas”, Western Morning News, 12 Sept 2018
- 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, for his documentary film *Racing Extinction*.

#### 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/>

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

**Taxonomy:** Trained in phyto and zooplankton identification and analysis.

**Languages:** I am an intermediate Spanish speaker and an advanced-beginner Japanese speaker.

## 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 **44 papers in international journals** (with total Impact Factor, [IF] = 195), one book chapter, and multiple **high impact policy publications**. My work has been **cited >2370 times**, my **h-index is 25** and my **i10 index is 35**.

## APPENDIX 1: PEER-REVIEWED SCIENTIFIC PUBLICATIONS

- Bedford, J., Ostle, C., Johns, D.G., Atkinson, A., Best, M., Bresnan, E., Machairopoulou, M., Graves, C.A., Devlin, M., Milligan, A., Pitois, S., Mellor, A., Tett, P. and **McQuatters-Gollop, A.**, (2020). Lifeform indicators reveal large-scale shifts in plankton across the North-West European shelf. *Global Change Biology*, **26**: 3482-3497. [IF]=8.88
- Bedford, J., Ostle, C., Johns, D.G., Budria, A. and **McQuatters-Gollop, A.**, (2020). The influence of temporal scale selection on pelagic habitat biodiversity indicators. *Ecological Indicators*, **114**: 106311. [IF]=2.890
- Batten, S.D., Abu-Alhija, R., Chiba, S., Edwards, M., Graham, G., Jyothibabu, R., Kitchener, J.A., Koubbi, P., **McQuatters-Gollop, A.**, Muxagata, E., Ostle, C., Richardson, A.J., Robinson, K.V., Takahashi, K.T., Verheye, H.M. and Wilson, W., (2019). A Global Plankton Diversity Monitoring Program. *Frontiers in Marine Science*, **6**. [IF]=3.086
- McQuatters-Gollop, A.**, Mitchell, I., vina-Herbon, C., Bedford, J., Addison, P.F.E., Lynam, C.P., Geetha, P.N., Vermeulen, E., Smit, K., Bayley, D.T.I., Morris-Webb, E., Niner, H. and Otto, S.A., (2019). From science to evidence – how biodiversity indicators can be used for effective marine conservation policy and management. *Frontiers in Marine Science*, **6**. [IF]=3.086
- Pittman, S., Curry, K., Bedford, J., Fletcher, S., **McQuatters-Gollop, A.**, Lowther, J., Attrill, M.J., Rees, S., Shellock, R., Moseley, K., Gall, S., Rodwell, L. and Williams, M., (2019). Marine Parks for Coastal Cities: A concept for enhanced community well-being, prosperity and sustainable city living. *Marine Policy*, **103**:160-171. [IF]=2.610
- Rombouts, I., Simon, N., Aubert, A., Cariou, T., Feunteun, E., Guérin, L., Hoebeker, M., **McQuatters-Gollop, A.**, Rigaut-Jalabert, F. and Artigas, L.F., (2019). Changes in marine phytoplankton diversity: Assessment under the Marine Strategy Framework Directive. *Ecological Indicators*, **102**: 265-277. [IF]=2.890
- McQuatters-Gollop, A.**, (2019). Marine Ecological Field Methods. Salvanes, A. G. V., Devine, J., Jensen, K. H., Hestetun, J. T., Sjøtun, K., & Glenner, H, Wiley and Sons, 2018, 218 pp. *Fish and Fisheries*, **20**: 390-390. [IF]=6.99
- McQuatters-Gollop, A.**, Atkinson, A., Aubert, A., Bedford, J., Best, M., Bresnan, E., Cook, K., Devlin, M., Gowen, R., Johns, D.G., Machairopoulou, M., Mellor, A., Ostle, C., Scherer, C. and Tett, P., (2019). Plankton lifeforms as a biodiversity indicator for regional-scale assessment of pelagic habitats for policy. *Ecological Indicators*, **101**: 913-925. [IF]=2.890
- Bedford, J., Johns, D.G. and **McQuatters-Gollop, A.**, (2019). A century of change in North Sea plankton communities explored through integrating historical datasets. *ICES Journal of Marine Science*, **76**:104-112. [IF]=2.949
- Siddons, B., Glegg, G. and **McQuatters-Gollop, A.**, (2018). Inter-regional coherence: can Northeast Atlantic pelagic indicators be applied to the Arctic? *Marine Policy*, **96**:53-64. [IF]=2.610
- 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*, **89**:109-115. [IF]=2.610
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## APPENDIX 2: POLICY PUBLICATIONS

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### APPENDIX 3: BOOK CHAPTERS

- McQuatters-Gollop, A.**, (2020). In: K. Inaba and J. Hall-Spencer (Editors), *Japanese Marine Life: A practical training guide in marine biology*. Springer Nature Singapore Pte Ltd, Singapore, pp. 347-352.

### APPENDIX 4: CONFERENCE PRESENTATIONS/POSTERS

#### Keynote addresses:

#### 2018

*Plankton time-series are key to sustainable marine policy*, L4 30th Anniversary Science Day, PML, Plymouth.

#### 2017

*From evidence to policy: developing biodiversity indicators for marine conservation*, Commemorative Symposium for the 33<sup>rd</sup> 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.

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

## **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:**

## **2020**

*Using biodiversity indicators to meet marine conservation objectives*, University of Tokyo Seminar Series, Tokyo, Japan.

## **2019**

*Opportunities for working across the science-policy interface: Nature-based solutions in Malaysia*, Malaysia Nature-based Solutions, Kuala Lumpur, Malaysia.

*Brexit and the Marine Environment*, The UK After Brexit University of Plymouth, Plymouth, UK.

*Developing and applying indicators for marine conservation and management*, Blue Charter All Champions Meeting, London, UK.

*Using biodiversity indicators to meet marine conservation objectives*, OneNOAA Science Seminar Series, Silver Springs, Maryland, USA

*How plankton data can meet global policy challenges*, Essential Biological Data Products: A Showcase for the European Atlas of Marine Life, Lisbon, Portugal.

## **2018**

*Plankton time-series are key to sustainable marine policy*, L4 30th Anniversary Science Day, PML, Plymouth, UK.

*From data to decisions: creating impact through policy*, Getting your science used in policy, University of Exeter, UK.

*Research in Parliament – a marine conservationist's perspective*, Research, impact, and the UK Parliament. UKRI, Plymouth.

*Why am I here?*, Shaping the next generation of early career scientists, PML, Plymouth, UK.

## **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.*

*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:**

#### **2020**

#### **IMCC**

#### **2019**

*Biodiversity in a shifting sea: challenges and solutions for working across the science-policy interface, Species on the Move, Kruger National Park, South Africa.*

#### **2018**

*From evidence to policy: developing pelagic biodiversity indicators for marine conservation, International Marine Conservation Congress: Making marine science matter, Kuching, Malaysia.*

*From evidence to action: challenges and solutions for working across the science-policy interface, PICES: Toward integrated understanding of ecosystem variability in the North Pacific, Yokohama, Japan.*

*Plankton lifeforms as regional pelagic biodiversity indicators for ecosystem-based management, PICES: Toward integrated understanding of ecosystem variability in the North Pacific, Yokohama, Japan.*

#### **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:

*Plankton on the move: implications for global biodiversity goals*, Species on the Move, Kruger National Park, South Africa, 2019.

*Developing pelagic biodiversity indicators for ecosystem-based management*, Effects of Climate Change on the World Ocean. PICES/ICES, Washington, D.C., USA, 2018.

*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:**

*Using biodiversity indicators to meet marine conservation objectives*, Co-Coast Wine and Science, Marine Biological Association, Plymouth, UK, 2019.

*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.